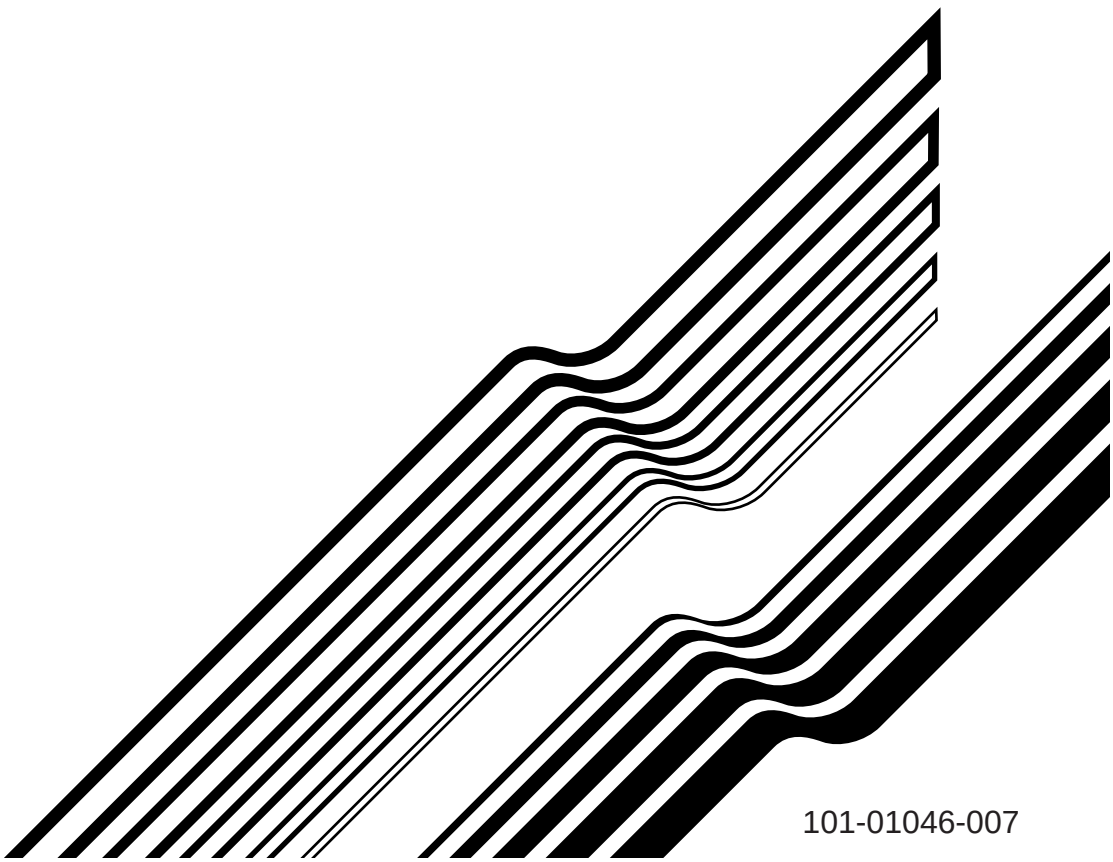
RISO

SC7000

User Manual



101-01046-007

Welcome to RISO SC7000

Thank you very much for purchasing the RISO SC7000.
This manual provides various information ranging from basic operational description to safety precautions and troubleshooting tips, to allow you to make the most use of the SC7000.
We recommend, therefore, that you keep this maual within your reach and refer to it before and during operation if required.

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This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can rediate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which cause the user will be required to correct the interference at his own expense.

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Introduction 2

2.1 About This Manual

This document, the *SC7000 User Manual*, is intended as an introduction and reference for any user of the SC7000. It is supplemented by the *SC7000 Technical Administrator Manual*.

Throughout the *SC7000 User Manual*, we assume that you are already familiar with the basic operation of your computer. We will not explain how to work with keyboard and mouse, how to start a program or how to interact with menus or dialog boxes. We also assume that you know how to print from within your application program.

If you are in doubt about any of these general procedures, please review the manuals of your computer, operating system or application program, or ask your Technical Administrator or the person responsible for your system for help.

However, you do not need to be a computer expert. Everything that goes beyond the knowledge of the average computer user will be described in greater detail, or we will refer to the *SC7000 Technical Administrator Manual*.

The *SC7000 User Manual* presumes that your SC7000 has already been installed and configured. All information necessary for installation and configuration is contained in the *SC7000 Technical Administrator Manual*.

The person in your company who is responsible for computer and/or printer setup and maintenance, referred to as the Technical Administrator or System Administrator, should read both the *SC7000 User Manual* and the *SC7000 Technical Administrator Manual*. Those who want “to just print” will find that the *SC7000 User Manual* best meets their information needs.

The user of an SC7000 will find this manual helpful to get started quickly. Take the time to find out which paragraphs fit to your system environment and read them carefully. Overall, reading the user manual will save you time and enable you to take full advantage of all the features of the SC7000.

2.2 SC7000 Features

2.2.1 The Computer Side

The SC7000 is a raster image processor (RIP). This kind of device is a highly specialized computer. The SC7000 is the RIP for use with the RISOGRAPH family of Digital Duplicators.

The main task of a RIP is to compute the individual dots which constitute the contents of a printed page. This page, or maybe a long document consisting of many pages, is described by means of a page description language. The SC7000 understands both PostScript (Level 2) page description language and Printer Command Language (PCL, versions 5 and 5e).

The computer that you are using for creating documents connects to the SC7000 via the serial port, the parallel port or the network port. The network type used by the SC7000 is Ethernet. A SCSI interface is provided for scanning only.

Different “languages” may be spoken by the computers on a network, even if they use the same kind of network, e.g. Ethernet. These languages are called network protocols. The SC7000 uses two different network protocols: EtherTalk, which is the common network for Apple Macintosh computers, and TCP/IP, which is most widely used among UNIX workstations. When using TCP/IP, communication will be one-way (unidirectional) only.

2.2.2 The RISOGRAPH Side

Many different RISOGRAPH models may be connected to the SC7000. The SC7000 automatically determines the resolution of the RISOGRAPH model used. There is no additional setup required.

In addition to printing, the SC7000 is also capable of scanning documents from the RISOGRAPH's scanner platen into your computer, provided that this feature is supported by your RISOGRAPH*. If an ADF (automatic document feeder) is installed, the ADF may also be used for scanning with the SC7000.

Any image size that can be printed from the stand-alone RISOGRAPH may also be printed using the SC7000. All original sizes supported by the stand-alone RISOGRAPH are also supported by the SC7000 for scanning.

Screening techniques are used to print different shades of gray. In addition to conventional screens, the SC7000 offers state-of-the-art Adobe Brilliant Screens FM screening technology for PostScript documents.

The RISOGRAPH can be completely controlled from the computer. SC7000 printer drivers, for the most popular computer operating systems, are provided for this purpose. Remote control includes choosing the Sort Mode if a sorter is installed.

* Please consult your RISO dealer for more information regarding RISOGRAPH models that have a scanning function.

2.3 ⚠ Safety Warning

To avoid an electric shock and personal injury, the SC7000 enclosure may not be opened except by a qualified service technician. The service technician must switch the SC7000 off and unplug the main supply before opening the enclosure.

It is most important to check the local supply voltage and to set the voltage switch on the rear of the SC7000 according to the local voltage before attempting to connect the SC7000 to the main supply. See the hardware installation chapter of the *SC7000 Technical Administrator Manual* for information on how to set the voltage switch correctly and how to connect the SC7000 to the main supply.

Do not use the SC7000 in any way or for any purpose other than those described in the *SC7000 User Manual* and *SC7000 Technical Administrator Manual.*

2.3.1 Alert Notices

The following alert notices are used in this manual to alert a user to operate the SC7000 correctly and prevent damage or injury.

> ⚠ **WARNING** indicates a potentially hazardous situation which, if disregarded, might result in death or serious injury.
>
> ⚠ **CAUTION** indicates a potentially hazardous situation which, if disregarded, might result in injury or physical damage.

2.3.2 Installation

⚠ WARNING

- Do not place water containers or metallic objects on the unit. If water drips inside the unit or a metallic object drops inside it, it can result in a fire or an electric shock.

⚠ CAUTION

- Place the unit on a flat and stable surface. Injury might occur if the unit falls.
- Do not place heavy objects on the unit. The objects might fall and cause injury.
- Keep the object away from dusty or humid areas. Otherwise, a fire or an electric shock might occur.
- Unplug the power cord before moving the unit. Otherwise, the power connector might be damaged and a fire or an electric shock might occur.

2.3.3 Power Connection

⚠ WARNING

- Do not overload an electrical outlet or extension cord, nor damage the power cord by placing heavy objects on it or pulling or bending it. Otherwise, a fire or an electric shock might occur.

- Do not plug or unplug the power cord if your hands are wet. Otherwise, an electric shock might occur.

⚠ CAUTION

- Do not pull the power cord but hold the plug itself when unplugged it. Otherwise, it could become damaged and a fire or an electric shock might occur.

2.3.4 Handling Precautions

⚠ WARNING

- To prevent overheating and the possibility of fire, do not cover the air vents.
- Do not insert or drop any metallic material or flammable substance into the unit through any opening. Otherwise, a fire or an electric shock might occur.
- Do not disassemble or rebuild the unit by yourself. Otherwise, a fire or an electric shock might occur.

- If the unit overheats or smokes, immediately turn off the power, unplug the power cord and contact your service representative because a fire or an electric shock might occur.
- If something drops inside the unit, turn off the power switch first, then unplug the power cord and contact your service representative. If you continue using it, a fire or an electric shock might occur.
- Unplug the power cord, if you do not use the unit for a long time.

Looking at the System 3

3.1 System Overview

A typical system environment for the SC7000 consists of one or more computers, a RISOGRAPH Digital Duplicator and the SC7000 which connects the computer(s) to the RISOGRAPH.

A computer is necessary for creating or at least viewing and printing the documents. The SC7000 is compatible with IBM PC/compatibles as well as Macintosh computers/ Macintosh compatibles.

The computer consists of hardware (the “box” itself) and software (the programs which run on the computer). There are different pieces of software necessary for creating the page description that we need for printing:

One part of the software is the application program, e.g. a word processor like Microsoft Word or a page layout program like QuarkXPress. The application program is what you use for creating your documents.

The application program needs help to communicate with the computer’s hardware. This help is provided by another piece of software called the operating system. Operating systems are, for example, Mac OS on the Apple Macintosh or MS-DOS and Microsoft Windows on an IBM-compatible PC.

The operating system usually makes use of so-called drivers to provide services like “write data to disk” or “show text on screen” to the application program. The most important driver for printing a document on the RISOGRAPH is the printer driver. For this reason, RISO provides special printer drivers which plug into the most common operating systems with your SC7000.

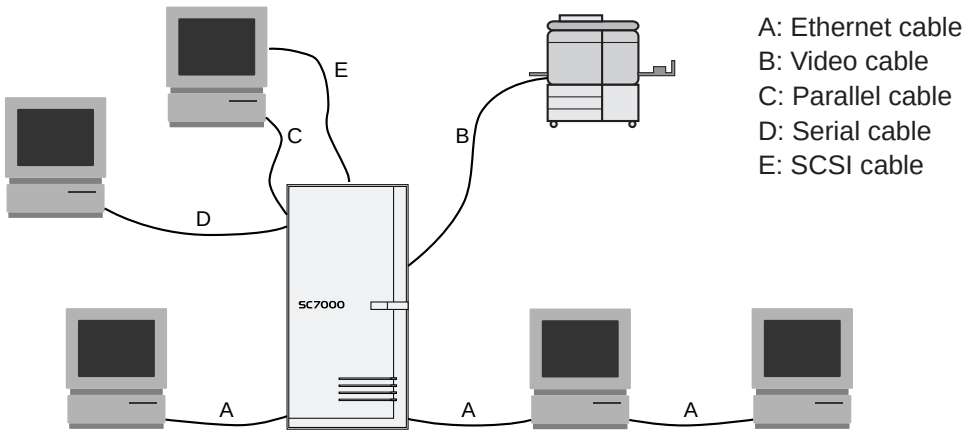

Figure 3.1: System Overview

The SC7000 offers several different options in connecting to computers. Please note that not all configurations provide two-way communications, i.e. a back-channel for displaying error messages cannot always be guaranteed. This depends on both the computers' hardware and operating system.

The serial and the parallel port each allow only one computer be connected to it, but the network port may connect to many computers operating on various platforms at the same time.

The RISOGRAPH communicates with the SC7000 by means of the video cable. While this cable is limited in length, the SC7000 will always be placed near to the RISOGRAPH. The video cable transports image (video) data as well as control and status information between the SC7000 and the RISOGRAPH.

There is one fundamental difference between a dot matrix, laser or similar computer printer and a RISOGRAPH: The printing process on a RISOGRAPH consists of two consecutive steps. The first step is to generate the master, the second step is to print the image from the master to the paper. Master making takes a few additional seconds, but printing is high speed.

Since printing to the RISOGRAPH consists of two steps: master-making and printing, the SC7000 will operate in the background and process the next master in a multi-page document. Thus, the SC7000 doesn't monitor the RISOGRAPH at all times.

3.2 SC7000 Operator Panel

The SC7000 is essentially controlled by the computer. Nonetheless, three control lights and one key are provided on a small operator panel at the front. They are useful to control the basic operation of the SC7000.

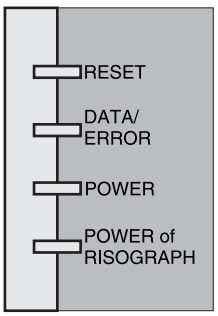

Figure 3.2: SC7000 Operator Panel

3.2.1 Control Lights

There are three control lights on the lower right side at the front. Two of these lights may be simply on or off, but the third one (the uppermost control light) may be illuminated in three different colors and may also be flashing at two different rates.

3.2.1.1 Upper Control Light

The upper control light indicates the current state of the SC7000. The following table describes each of the states:

Color	Lighting Condition	Status of SC7000	Meaning
Green		IDLE	The SC7000 is idle and ready to accept the next print job.
Green	Flashing slowly	BUSY	The SC7000 is currently processing a print job.
Green/Yellow	Flashing slowly	WAITING	The SC7000 is waiting for additional data.
Green/Red	Flashing slowly	INITIALIZING	The SC7000 is initializing.
Yellow		PRINTING	The SC7000 is making a master.
Yellow	Flashing slowly	I/F KEY	The SC7000 is waiting for the user to press the RISOGRAPH's I/F key.
Red		ERROR	An error has occurred. Further information may be displayed on your computer's screen or the RISOGRAPH's operator panel. Red is also the initial color when the SC7000 is switched on.

Color	Lighting Condition	Status of SC7000	Meaning
Yellow/Red	Flashing slowly	ABORT	The SC7000 waits for the user to either release the RESET key to abort the current processed job or to keep the key depressed to confirm a reset.
Yellow/Red	Flashing fast	RESET	The SC7000 indicates that it is performing a reset and that the RESET key may be released.
Red	Flashing slowly	TEST PAGE	The SC7000 waits for the user to either release the RESET key to print a test page or to keep the RESET key depressed to confirm restoring the factory defaults.
Red	Flashing fast	FACTORY DEFAULTS	The SC7000 indicates that it restoring the factory defaults and that the RESET key may be released.

3.2.1.2 Middle Control Light

The middle control light is illuminated green if the SC7000 is switched on.

3.2.1.3 Lower Control Light

The lower control light is illuminated green if both the RISOGRAPH and SC7000 are switched on and are properly connected to each other. Please see the appendix for help if the RISOGRAPH and the SC7000 are switched on but the lower control light is not illuminated.

3.2.2 RESET Key

Pressing the RESET key, which is located above the upper control light, has different effects depending on when and for how long the RESET key is held down.

If the key is pressed at the same time while the SC7000 is switched on, a test page will be printed or all settings will be reset to their factory defaults, depending on how long the key is pressed.

If the key is pressed while the SC7000 is busy, the current print job will be aborted or the SC7000 will be reset which also depends on how long the key is pressed.

Note that the utility software allows the test page to be printed or to restore the factory defaults as well. Utility software will be described later in this manual and in the *SC7000 Technical Administrator Manual*.

Make sure not to interrupt other users when pressing the RESET key.

3.2.2.1 Printing a Test Page

To print a test page, press the key, switch the SC7000 on and hold down the key until the upper control light begins to flash red slowly, then release the key.

The SC7000 performs a self-test which is independent of any computer connected to the SC7000. The test page confirms if testing was successful provided that the RISOGRAPH is able to print.

3.2.2.2 Restoring Factory Defaults

To reset all settings to their factory defaults, press the key, switch the SC7000 on and hold down the key. Keep on holding the key when the upper control light begins to flash red slowly. After approximately 10 seconds, the upper control light starts to flash red faster. Now release the key.

All settings will be reset to their factory defaults. See the appendix of the *SC7000 Technical Administrator Manual* for a description of the factory defaults.

Note that the SC7000 automatically restarts when restoring the factory defaults. For this reason, all fonts in memory will be deleted.

3.2.2.3 Aborting a Print Job

To abort the current processed print job, press the key until the upper control light starts to flash yellow and red slowly, then release the key.

The current print job will be discarded.

3.2.2.4 Resetting the SC7000

To reset the SC7000, press the key and hold it down. Keep on holding the key when the upper control light starts flashing yellow and red slowly.

Wait approximately 10 seconds until the upper control light begins to flash yellow and red faster. Now release the key.

The SC7000 will perform a reset and any previously processed print jobs will be aborted. Any fonts downloaded to memory will be deleted.

Please see the typefaces section for details about fonts. If a master is currently generated, the master will be completed before the reset.

Color	Lighting Condition	Status of SC7000	Meaning
Yellow/Red	Flashing slowly	ABORT	The SC7000 waits for the user to either release the RESET key to abort the current processed job or to keep the key depressed to confirm a reset.
Yellow/Red	Flashing fast	RESET	The SC7000 indicates that it is performing a reset and that the RESET key may be released.
Red	Flashing slowly	TEST PAGE	The SC7000 waits for the user to either release the RESET key to print a test page or to keep the RESET key depressed to confirm restoring the factory defaults.
Red	Flashing fast	FACTORY DEFAULTS	The SC7000 indicates that it restoring the factory defaults and that the RESET key may be released.

Before You Begin ... 4

4.1 Computer Setup

We assume that the SC7000 has already been installed and configured as explained in the *SC7000 Technical Administrator Manual*. To print the first page from your computer, there are just a few things to do.

4.1.1 What to Do?

On each computer, your System Administrator should have installed the appropriate printer driver, together with a printer description file for the RISOGRAPH model used. The PostScript printer driver and, sometimes, the application program uses printer description files to determine the distinct characteristics of the printer, e.g. supported paper sizes.

The ownership of our own proprietary printer driver is a tremendous advantage. Why put ourselves in a position of encountering problems by using other drivers?

When the printer driver is installed, make sure that the driver is correctly set up for the RISOGRAPH (i.e. for the RISOGRAPH's printer description file), including setup of the installable options of cylinder and sorter.

To verify your setup, select a paper size and print your first page from within a standard application program like SimpleText (Macintosh), WordPad or Write (Windows). When you're satisfied with the results, print samples which are more complex from within your usual application programs.

Do not use any options called "Collate" or "Collated Copies" which are provided by some application programs. Using these options causes the RISOGRAPH to make a new master for each printed page.

If anything doesn't work as you would expect it from this description, ask your Technical Administrator for help.

4.1.2 Just in Case …

If you use DOS or another operating system for which RISO does not furnish printer drivers, you can still print with the SC7000 if you can print to a PostScript or PCL printer from your software application.

If you have the choice, select a PostScript Level 2 driver. A PostScript Level 1 driver will also work, but in most cases, using a Level 2 driver will improve performance.

Many PostScript printer drivers can make use of PPD (PostScript Printer Description) files. Use a PostScript driver in conjunction with a SC7000 PPD whenever possible.

There are no PPD files for PCL. Since the SC7000 emulates the HP LaserJet III and LaserJet 4V printers, you may select a driver for one of these laser printers.

Pay special attention to the selection of paper size and feed direction when using other printer drivers or printer description files. If you must use the printer description file of a different printer than your RISOGRAPH model, select a printer description file of a printer which feeds the paper in the same direction as your RISOGRAPH (short edge or long edge first). Keep in mind that the non-printable area along the edges of the paper may vary when using non-RISO printer description files.

Normally, a printer driver automatically downloads fonts needed by a document if they are not already stored on the SC7000. When using different printer description files, the driver's assumptions about fonts stored on the SC7000 may be wrong. For this reason, you may need to manually download fonts to the SC7000.

Do not attempt to use a printer driver which supports neither PostScript nor PCL! It will not work.

4.1.3 Printer Description Files

There are several different kinds of printer description files, the most popular one is called PPD (PostScript Printer Description). The PPD file format is used by printer drivers and application programs of different operating systems. PPD files consist of human-readable text and describe features like paper sizes, printable areas of the page, fonts, specific options like print finishing devices and more.

The Windows 3.x printer driver uses machine-only-readable files called WPD (Windows Printer Description) which contain similar information. WPD files are not necessary for printing with the SC7000: The SC7000 package includes an Adobe PostScript printer driver for Windows which uses PPD files.

If you use the PostScript printer driver which comes with Windows 3.x, please note that most features of the SC7000 are not available from this driver and that we cannot provide technical support for this printer driver.

QuarkXPress requires special attention regarding printer description files because it uses its own. The name of QuarkXPress printer description files is PDF (Printer Description File). PDFs are provided for the SC7000 for both Macintosh and Windows. They are usually stored in the folder/directory which contains the QuarkXPress program, newer versions of QuarkXPress use a PDF subfolder/subdirectory.

The latest Macintosh versions of QuarkXPress are alternatively able to use PPD files. This may result in “double printers” in the QuarkXPress Paper Size dialog box if both the printer driver’s PPD file and the installed PDF are recognized. If this happens, remove the corresponding SC7000 PDF from the folder/directory where it is installed. Renaming the file is not sufficient to disable it.

4.1.4 Apple Macintosh

4.1.4.1 Printer Selection

To select the SC7000 as your current PostScript printer, select the **Chooser**, located in the Apple Menu.

Click the PSPrinter icon to select the SC7000 printer driver.

You may also select the LaserWriter 8 printer driver which is part of the Macintosh operating system software. Please note that the SC7000 documentation refers only to the PSPrinter driver and that we cannot provide technical support to you when using any other driver.

Select the **AppleTalk Zone** where the SC7000 resides.

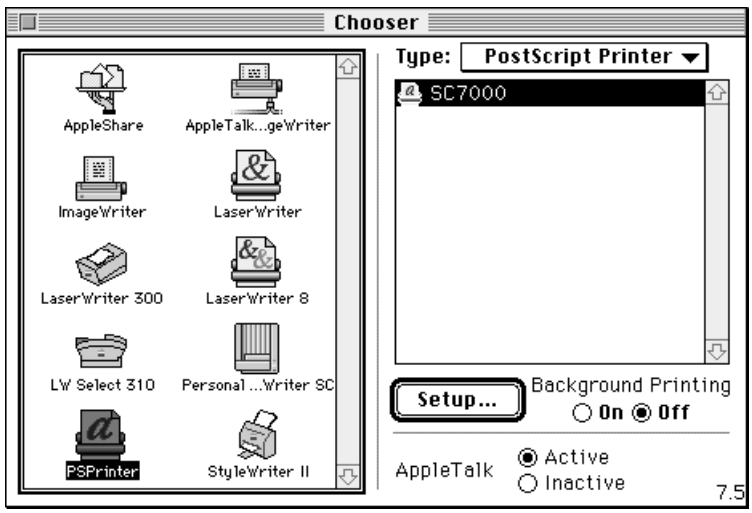

Figure 4.1: Chooser (Macintosh)

The **AppleTalk Zone** depends on your particular network configuration. If you are unsure of the correct **AppleTalk Zone**, ask your Technical Administrator.

Select SC7000 from the list of **PostScript Printers**. If the SC7000 has just been switched on, there may be some delay until the SC7000 appears in the list.

If your SC7000 is currently not connected to the network and you want to print to a file, choose **Virtual Printer** from the **Type** pull-down menu. In all other cases, select **PostScript Printer** from the **Type** menu.

4.1.4.2 Printer Driver Setup

If the SC7000 does not have a small icon next to it in the Chooser's list of PostScript printers, the printer driver has not yet been set up for a specific printer. Even if the icon is visible, make sure that the driver's settings for cylinder and sorter match the physical setup of your RISOGRAPH.

Often, the setup for your printer driver is done by your Technical Administrator, therefore it is also described in the *SC7000 Technical Administrator Manual*. Nevertheless, make sure that the printer driver is correctly set up, in particular if you print on the SC7000 for the first time or if the printer's configuration has changed.

Note that printing from the Macintosh means printing PostScript data, there is no PCL support for Apple Macintosh.

For printer driver setup, select **Chooser** from the Apple Menu. Select the SC7000 as described in the previous section. Click **Setup**. Then, click **Auto Setup** in the next dialog box.

Provided that you do not set up a virtual printer, the printer driver searches for a PPD file (PostScript Printer Description file) suitable for the SC7000. If it finds exactly one PPD file for the SC7000, the driver will use this PPD for self-configuration.

If there is more than one PPD file for the SC7000 installed on your computer, the printer driver displays a list of all PPDs for different RISOGRAPH models. In some cases (e.g. if you have copied the SC7000 PPD files to a different directory than normally used for this purpose), the search may fail and you'll have to select the PPD file manually.

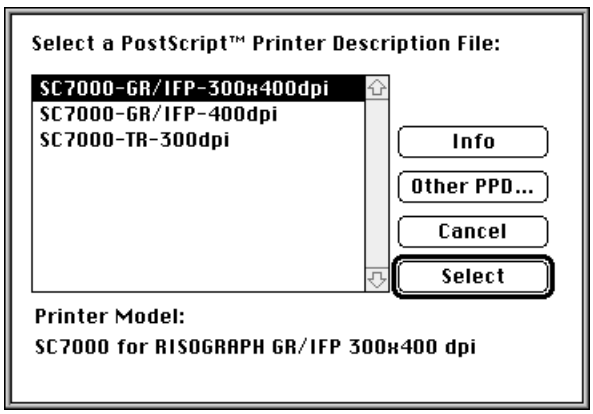

Figure 4.2: PPD File Selection (Macintosh)

In either case, the printer driver displays a dialog box to select a PPD file. For information on a specific PPD file, click the file in the list in this dialog box. When you have found the SC7000 PPD file for your specific RISOGRAPH model, click the PPD file, click **Select**, then click **OK**.

PPD files are usually stored in System Folder\Extensions\Printer Descriptions.

Back to the **Chooser**, select the SC7000 and click **Setup** again.

Click **Configure** to get to the **Installable Options** dialog box.

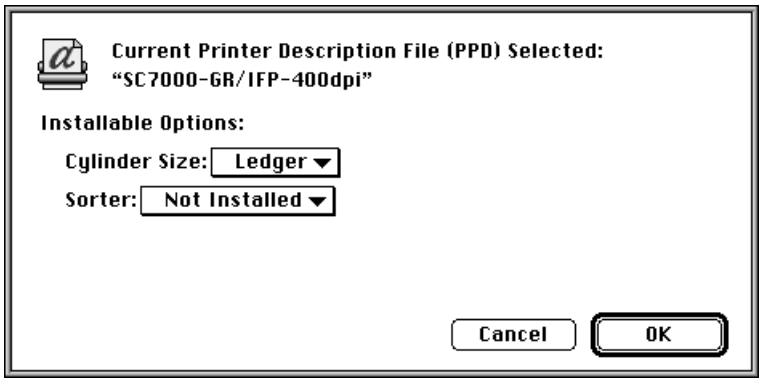

Figure 4.3: Installable Options Dialog Box (Macintosh)

Make sure that the selected **Cylinder Size** corresponds to the cylinder installed in your RISOGRAPH. Paper sizes which are displayed in the **Page Setup** dialog box depend on the selected **Cylinder Size**. See the paragraph on print options below for details on how to select a paper size for printing.

Furthermore, check if your RISOGRAPH's configuration matches the **Sorter** option. Correct these settings if necessary.

After changing the **Cylinder Size**, always check the **Paper** option in the **Page Setup** dialog box as described in the next section. If the new cylinder does not support the previously selected paper size, a new item called **Other** is selected. Change this setting and select another paper size.

Click **OK** to complete the printer driver setup.

4.1.4.3 Print Options

Prior to printing from within an application program, select **Page Setup** from the **File** menu. There may be application programs which use a different name, but they will provide a method to set up the page.

The **Page Setup** dialog box which appears on the screen is supplied by the printer driver but is possibly extended by your application program. Try SimpleText to find out what the plain **Page Setup** dialog box from the printer driver looks like.

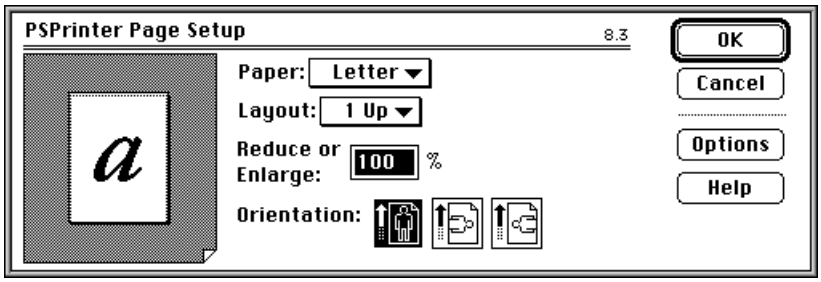

Figure 4.4: Page Setup Dialog Box (Macintosh)

Use the **Paper** option to select the desired paper size. Available paper sizes depend on the cylinder size selected from the **Installable Options** dialog box (see printer driver setup above).

You may click the page image box on the left to alternate between an image of the appearance of the page and a numerical listing of the page dimensions in inches or millimeters. To define a custom paper size, select **Custom** from the **Paper** options, then click the page image box on the left and edit the paper dimensions.

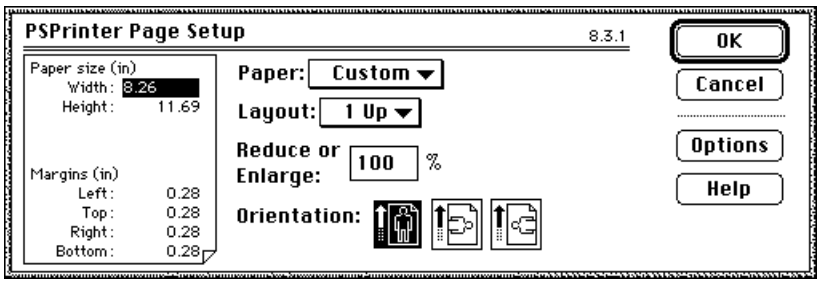

Figure 4.5: Custom Paper Size (Macintosh)

There is no cross-check between a custom paper size and the size of the installed cylinder. Any value will be accepted if it is printable with the largest possible cylinder for the respective series of RISOGRAPH models. Therefore, please check that you enter a valid custom paper size for the cylinder which you are currently using.

At first, leave the other options as they are:

The **Layout** option allows several pages of the document to be printed on one sheet of paper. The pages will be automatically adjusted to fit.

Reduce or **Enlarge** rescales the page according to the scale factor. Scale factors may range from 25% to 400%. The rescaled page will be aligned to the top left corner of the paper.

Orientation distinguishes portrait and landscape pages. Please see the RISOGRAPH setup section for an explanation of orientation versus feed direction. The **Orientation** option is usually set up correctly by default.

Print options which are accessed by the **Options** button are described in the *SC7000 Technical Administrator Manual.*

Click **OK** to leave the **Page Setup** dialog box.

4.1.4.4 Printing Your Document

Select **Print** from the **File** Menu. The **Print** dialog box appears. This dialog box is also supplied by the printer driver and may have extra options provided by your application program. The basic **Print** dialog box can be viewed without extra options from within SimpleText.

Click **Options** to see the **Print Options** dialog box.

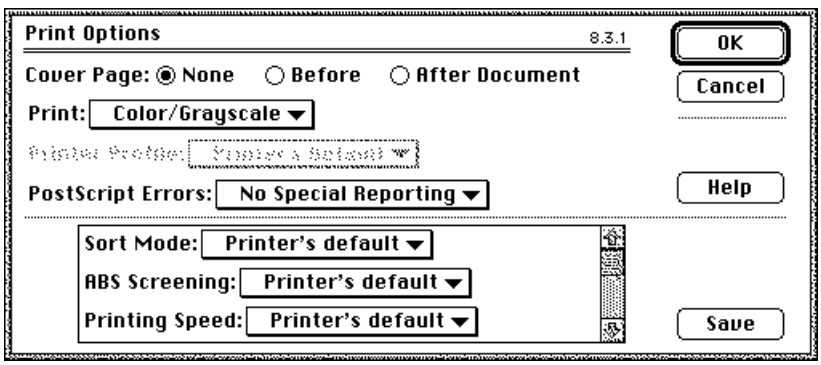

Figure 4.6: Print Options Dialog Box (Macintosh)

The **Cover Page** option may be used to add a cover page to your document. Until you are familiar with the settings, the default **None** should be selected.

The **Print** option allows **Calibrated Color**, **Color/Gray scale**, or **Black and White** to be selected. The latter does not print any shades of gray and is provided for historical reasons only. Select **Color/Gray scale** which maps colors as gray scales.

You may want to change the **PostScript Errors** option from **No Special Reporting** to **Summarize on Screen**. Note that this works only if **Background Printing** is turned **Off** (in the **Chooser**). The **Print Detailed Report** option prints error reports on the RISOGRAPH if necessary.

The lower part of the **Print Options** dialog box contains settings specific to the RISOGRAPH. Choose **Printer's default** for any of these options if you want to use SC7000 settings which have been permanently set by means of the utility software. To override permanent SC7000 settings, select the desired options as described below. **Print Options** selected from the printer driver will be applied to the current document only, they do not change permanent settings of the SC7000.

If there is a sorter installed, select the **Sort Mode**. Choose between **Sort**, **Group**, **Stack** or **NonSort**. **NonSort** causes the sorter to use its output tray. Refer to the sorter's user manual for information about the different Sort Modes.

Select **On** from the **ABS Screening** options to set ABS as the default screen. Choose **Off** to disable **ABS Screening** and to use conventional screening only. See the section about screens for a comparison between conventional and ABS screens.

Setting the **Print Speed** option has the same effects as setting a print speed from the RISOGRAPH's control panel. Select **Panel Settings** to use the print speed currently set in the RISOGRAPH's control panel or choose between **Slowest**, **Slow**, **Standard**, **Fast** and **Fastest** to set the desired **Print Speed** from your computer.

Print Density serves the same purpose as the corresponding setting at the RISOGRAPH's control panel. Choose either **Panel Settings** to use the print density currently set in the RISOGRAPH's control panel or select **Lightest**, **Light**, **Standard**, **Dark** or **Darkest** to set the **Print Density** from your computer.

Choose **On** from the **Confidential Mode** options to remove your document's last master from the cylinder immediately after printing. Select **Off** to disable **Confidential Mode** and to leave the last master on the RISOGRAPH's cylinder after printing.

When **Auto Print** mode is **On**, the RISOGRAPH automatically generates and prints a master. When **Auto Print** mode is **Off**, the RISOGRAPH generates a master, prints one proof copy and stops until the interface mode is enabled again.

When **Auto Print** mode is **On**, set **Pause Before Next Master to On**, to generate all first page copies until the interface mode is enabled again.

When **Pause Before Next Master** is **Off,** the RISOGRAPH continues to the next master. Please refer to the section discussing duplex printing.

Use the **Manual Duplex** field to select **Print All Pages**, **Print Even Pages**, or **Print Odd Pages**. Please refer to the section discussing duplex printing.

Choose the desired number of **Proof Copies**. Select any number between **0** and **9**. Proof copies will be printed in addition to the regular copy count which can be selected from the **Print** dialog box.

Click **Save** if you like to store the selected options as default for subsequent documents.

Click **OK** to return to the **Print** dialog box.

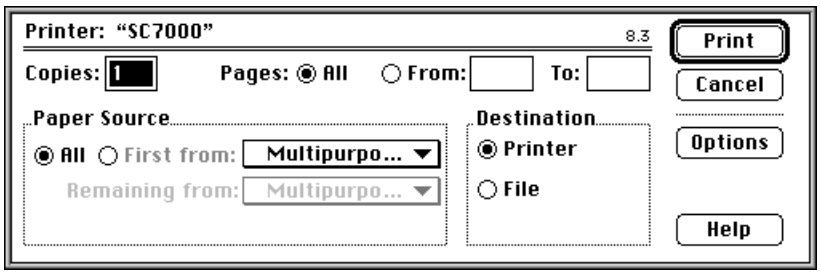

Figure 4.7: Print Dialog Box (Macintosh)

In the **Print** dialog box, select the desired number of **Copies**. Note that the RISOGRAPH will always generate one master for each page, print one or more proof copies from this master and finally print the selected number of copies from the same master. The number of proof copies may be selected from the **Print Options** dialog box described above. Alternatively, it can be permanently set by means of the utility software described later in this manual.

The **Pages** option allows a range of pages to be entered if you do not want to print all pages of your document.

Paper Source cannot be changed due to the RISOGRAPH's single paper feed tray.

Destination is set to **Printer** by default. At first, this should be left unchanged. You may want to try the **File** setting later which enables you to produce PostScript or EPS (Encapsulated PostScript) files. If you have set up a virtual printer in the **Chooser**, **File** is the only possible **Destination**. See the next paragraph for details on how to print to a file.

Click **Print** to start printing your document.

4.1.4.5 Printing to a File

To print to a file, choose **Print** from the **File** menu of your application program.

Printing to a file works even if your SC7000 is not connected to the network. To print to a file without network access, select **Virtual Printer** from the **Type** pull-down menu of the **Chooser**. Make sure to set **Type** to **PostScript Printer** whenever the SC7000 can be accessed from within your network.

From the **Print** dialog box, click **File** to select the **Destination**. Click **Save**. The **Save** dialog box appears.

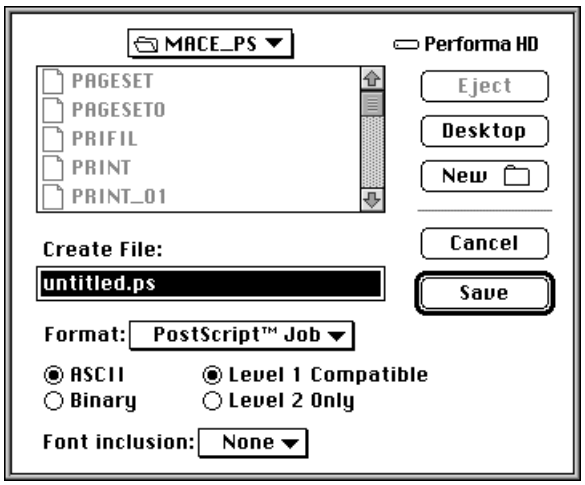

Figure 4.8: Save Dialog Box (Macintosh)

Select the destination folder and name your file under **Create File**. Choose from the following **Format** options:

PostScript Job produces a PostScript file which can be downloaded by means of a PostScript file downloader, e.g. the SC7000 utility. The result is the same as when directly printing to the SC7000, except that the **Cover Page** option cannot be used.

EPS Mac Standard Preview creates an EPS (Encapsulated PostScript) file which includes a 72 dpi monochrome preview image for display on Macintosh computers.

EPS Mac Enhanced Preview also creates an EPS file, but the preview is provided in QuickDraw PICT format for better quality on most Macintosh models.

EPS No Preview generates an EPS file without any preview. This is the recommended setting for EPS files which will be transferred to non-Macintosh computers.

Keep in mind that EPS files are limited to one page.

When creating a PostScript Job, you may choose between **ASCII** or **Binary** data. The **Binary** option prints faster because it produces less data. If you intend to transfer the PostScript file via telecommunications services, these services must fully support binary data transfer. If they do not, choose the **ASCII** option.

Click **Level 2 Only** to produce PostScript Level 2 data suitable for the SC7000. PostScript Level 2 data will often print faster than Level 1 data but can only be used on PostScript Level 2 devices. For compatibility with PostScript Level 1 printers, select **Level 1 Compatible** instead.

The **Font inclusion** pull-down menu offers several options for font embedding. Fonts which are neither included in the file nor available on the SC7000 cannot be printed. On the other hand, fonts significantly increase file size. Therefore, include only as many fonts as needed.

If you assume all fonts of your document will be available on the SC7000, select **None** to omit all fonts.

Choose **All** to include all fonts in your file, provided that they are available on your Macintosh.

Select **All But Standard 13** to include all fonts except the core set of 13 PostScript fonts which is supported by all PostScript printers. The core set of 13 fonts includes Courier, Courier Oblique, Courier Bold, Courier Bold Oblique, Helvetica, Helvetica Oblique, Helvetica Bold, Helvetica Bold Oblique, Times Roman, Times Italic, Times Bold, Times Bold Italic and the Symbol font.

All But Standard 35 includes all fonts in the file except the standard set of 35 PostScript fonts.Those 35 standard PostScript fonts are supported by many PostScript printers including the SC7000. See the appendix for a list of the 35 standard fonts resident in the SC7000.

All But Fonts in PPD file includes all PostScript fonts which are not listed in the PPD file.

All But Fonts in PPD file is the recommended setting for use with the SC7000, except when you have all your fonts downloaded to the printer's hard disk in which case choose the **None** option.

After making your decision upon the options above, click **Save** to save your PostScript file.

4.1.5 Microsoft Windows

4.1.5.1 Printer Selection

You may select the SC7000 as the current printer in two different ways. One way is to set it up as default printer, which will be described in the next section.

If you use more than one printer and print to the SC7000 only from time to time, or if you use both the PostScript and PCL printer drivers of the SC7000 on your computer, you may want to select the SC7000 printer driver from within your application program just for a specific document.

In the latter case, the method for printer selection depends on your application program. Most often, there is a **Print Setup** item in the **File** menu which allows a specific printer to be selected. Sometimes, there is an item called **Printer** accessible from **Print** in the **File** menu which serves the same purpose. Please refer to the manual of your application program to find out how to select a printer.

4.1.5.2 Printer Driver Setup

Printer driver setup is also described in the *SC7000 Technical Administrator Manual*. For this reason, the SC7000 printer driver should be already set up by your Technical Administrator. Nonetheless, it is a good idea to verify a correct printer driver setup, in particular if you print on the SC7000 for the first time or if the printer's configuration has changed.

However, this manual refers only to the printer drivers which are packaged with the SC7000. If there is a different driver installed on your computer, driver usage details may differ. In this case, ask your Technical Administrator for help or refer to your driver's documentation. We can only provide technical support for the drivers supplied with the SC7000.

4.1.5.2.1 PostScript Driver Setup

There are several ways to get to the PostScript driver's **Printer Driver Setup** dialog box:

1. (Windows 95) Click the **Start** button in the lower left corner of the screen. Select **Settings**, then select **Printers**. In **Printers**, select the SC7000 printer icon. You may want to select **Set As Default Printer** from the **File** menu. To continue, click **Properties** from the **File** menu. The **Properties** dialog box appears.
2. (Windows 3.1x) From the **Program Manager**, double-click **Control Panel** which is located in **Main**. Double-click **Printers**. In the **Printers** dialog box, select the SC7000 from the list of **Installed Printers**. Click **Set As Default Printer**, if desired. Click **Setup**.
3. (Windows 3.1x) Alternatively, double-click **Print Manager** which is located in **Main**. Choose **Install** from the **Options** Menu. In the **Printers** dialog box, select the SC7000 from the list of **Installed Printers**. Click **Set As Default Printer**, if desired. Click **Setup**.

A variety of tabs is visible on top of the **Printer Driver Setup** dialog box. Clicking one of the tabs makes the respective file card the uppermost on the stack. To configure the PostScript printer driver for your RISOGRAPH, click the **Device Option** tab from Windows 95 or the **Features** tab from Windows 3.1x.

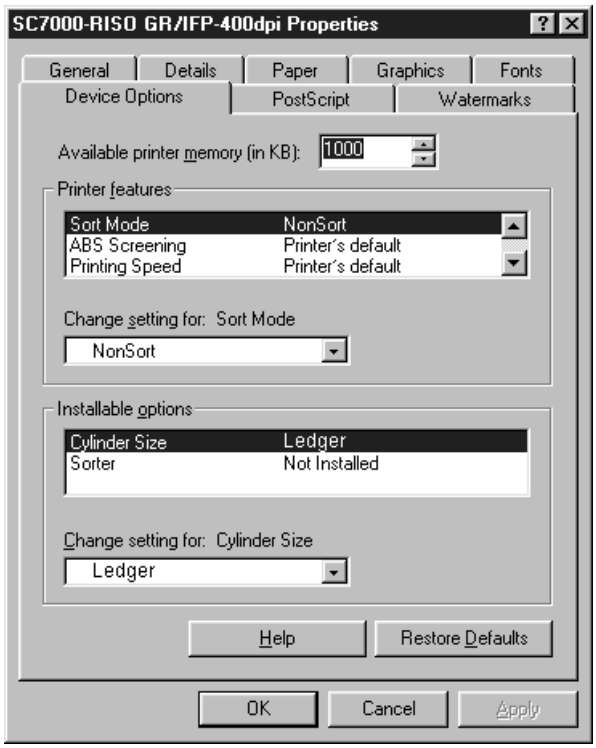

Figure 4.9: PostScript Printer Driver Setup / Device Options Tab (Windows 95)

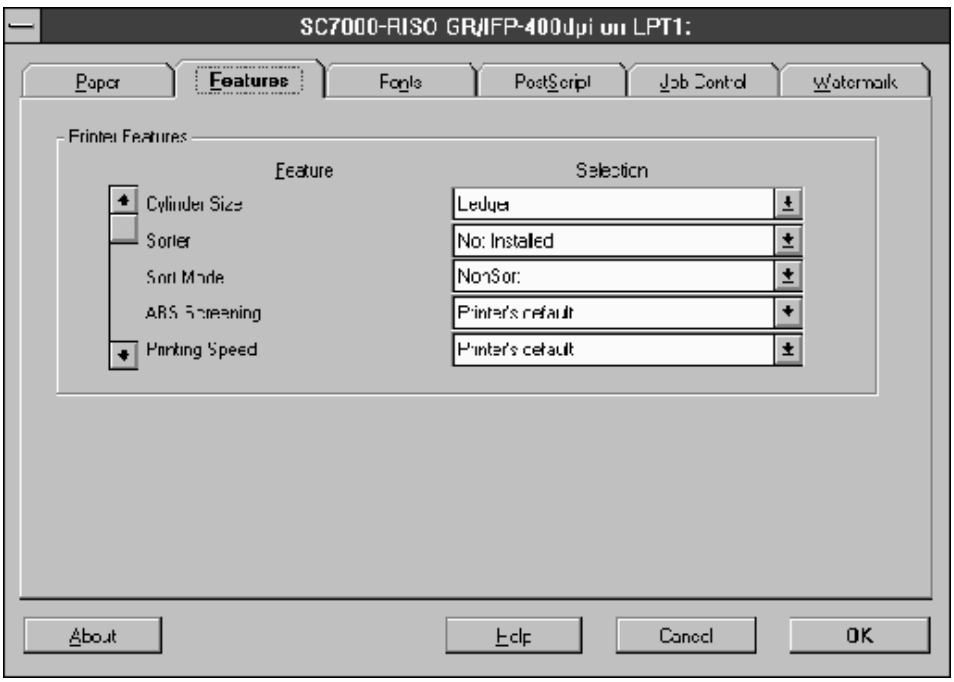

Figure 4.10: PostScript Printer Driver Setup / Features Tab (Windows 3.1x)

Make sure that the selected **Cylinder Size** corresponds to the cylinder installed in your RISOGRAPH. Furthermore, check if your RISOGRAPH's configuration matches the **Sorter** option. Correct these settings if necessary.

After changing the **Cylinder Size**, always refer to the **Paper Size** option on the **Paper** file card. If the new cylinder does not support the previously selected **Paper Size**, select a new **Paper Size** which is supported by the cylinder.

If there is a sorter installed, select the **Sort Mode**. Choose between **Sort**, **Group**, **Stack** or **NonSort**. **NonSort** causes the sorter to use its output tray. See the sorter's user manual for more information about Sort Modes.

Choose **Printer's default** for any of the features below if you want to use SC7000 settings which have been permanently set by means of the utility software. To override permanent SC7000 settings, select the desired options as described below. These selections made from the **Features** tab do not change permanent settings of the SC7000.

Select **On** from the **ABS Screening** options to set ABS as the default screen. Choose **Off** to disable **ABS Screening** and to use conventional screening only. See the section about screens for a comparison between conventional and ABS screens.

Setting the **Print Speed** feature has the same effects as setting a print speed from the RISOGRAPH's control panel. Select **Panel Settings** to use the print speed currently set in the RISOGRAPH's control panel or choose between **Slowest**, **Slow**, **Standard**, **Fast** and **Fastest** to set the desired **Print Speed** from your computer.

Print Density serves the same purpose as the corresponding setting on the RISOGRAPH's control panel. Choose either **Panel Settings** to use the print density currently set in the RISOGRAPH's control panel or select **Lightest**, **Light**, **Standard**, **Dark** or **Darkest** to set a **Print Density** from your computer.

Choose **On** from the **Confidential Mode** options to remove your document's last master from the cylinder immediately after printing. Select **Off** to disable **Confidential Mode** and to leave the last master on the RISOGRAPH's cylinder after printing.

When **Auto Print** modes **On**, the RISOGRAPH generates and prints a master. When **Auto Print** mode is **Off**, the RISOGRAPH generates a master, prints one proof copy and stops until the interface mode is enabled again.

When **Auto Print** mode is **On**, set **Stop Before Next Master On**, to generate all first page copies until the interface mode is enabled again.

When **Stop Before Next Master** mode **Off** is set, RISOGRAPH continues to the next master. Please refer to the section discussing duplex printing.

Use the **Manual Duplex** field to select **Print All Pages**, **Print Even Pages**, or **Print Odd Pages**. Please refer to the section discussing duplex printing.

Choose the desired number of **Proof Copies**. Select any number between **0** and **9**. Proof copies will be printed in addition to the regular copy count which can be selected from the **Print** dialog box of your application program.

Available printer memory may be specified in the Windows 95's **Device Options** tab.

If the value does not correspond to the amount of printer memory, the amount of memory available to the printer must be adjusted.

Before you leave the **Printer Driver Setup** dialog box by clicking **OK**, set up the print options as described below.

4.1.5.2.2 PostScript Print Options (Windows 95)

Before you print from within an application program, enter the **Properties** dialog box from Windows 95, or enter the **Printer Driver Setup** dialog box from Windows 3.1x as described in the previous section. Click the **Paper** tab.

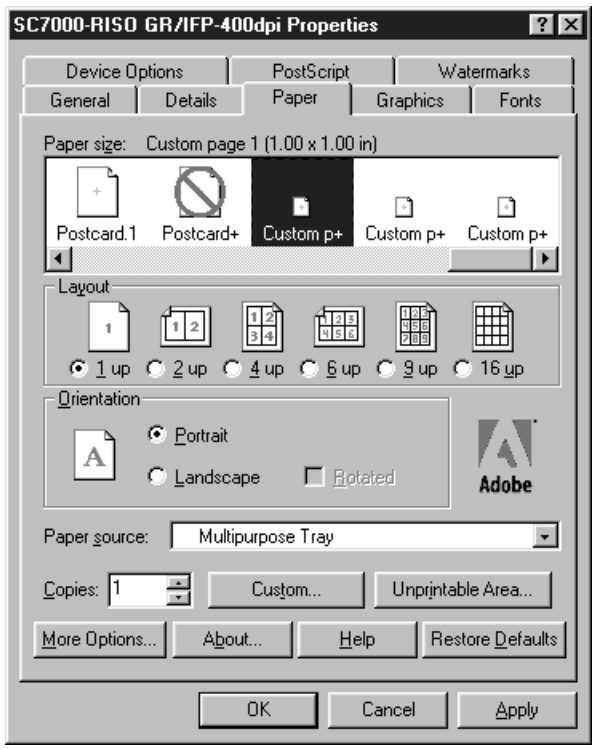

Figure 4.11: Properties Dialog box / Paper Tab (Windows 95)

Select the **Paper Size** for the document setup. The user may select Custom Paper to enter the dimensions of a non-standard **Paper Size** manually. You can define up to three custom sizes. After choosing one of the Custom Papers, click the **Custom** button to enter the paper size.

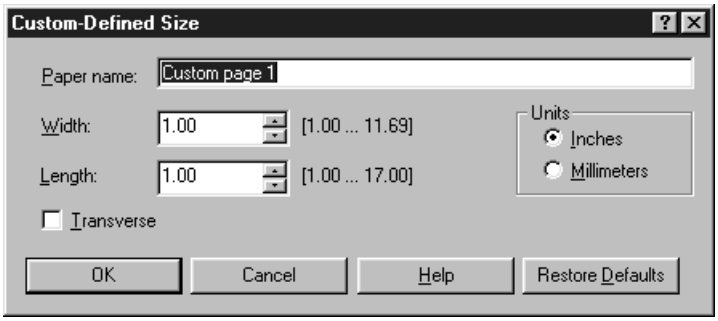

Figure 4.12: Custom Paper Dialog box (Windows 95)

Enter the custom **Paper name** and dimensions of a non-standard paper size manually. You can choose either **Inches** or **Millimeters** units. Check **Transverse** to rotate your document 90 degrees.

Note that the user is responsible for entering a printable custom paper size. There is no cross-check between a custom paper size and the size of the installed drum. All values printable with the largest possible drum for the respective series of RISOGRAPH models are accepted.

The **Layout** option allows several pages of a document to be placed on one sheet of paper. Document pages are automatically adjusted to the paper size. Click **More Options** and check **Print page border** to print a frame around each page if you print more than one document page per sheet.

Orientation distinguishes **Portrait** and **Landscape** pages. Orientation versus feed direction is described in the RISOGRAPH setup section of the this Manual. The **Rotated** check box allows the top and bottom of the page to be reversed in Landscape. **Paper Source** cannot be changed due to the RISOGRAPH single paper feed tray.

Do not change the number of **Copies** on the **Paper** file card. The value of **Copies** should always remain 1. Choose the number of copies directly from the application program instead.

Click **Unprintable Area** if non-printable margins at the edges of the selected paper are desired. No changes in default values are recommended because these values are optimised for the best results with the RISOGRAPH.

Click the **Graphic** tab to set up graphic handling.

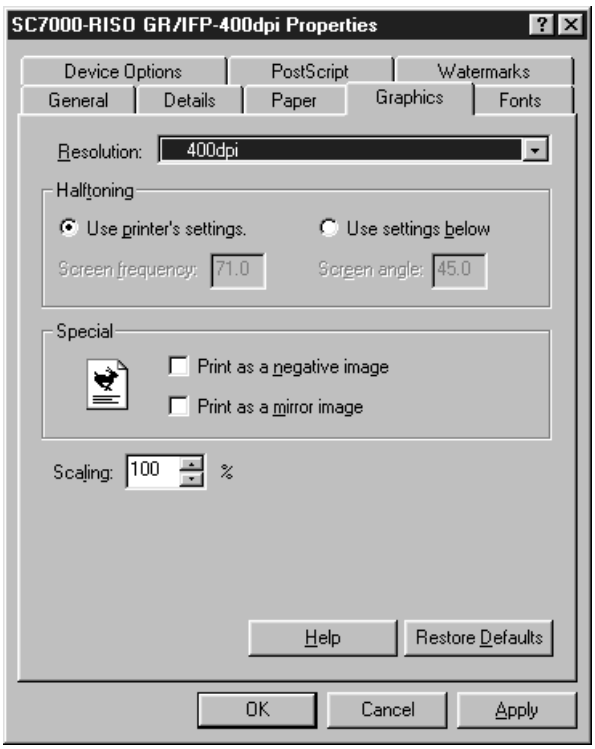

Figure 4.13: Properties Dialog Box / Graphics Tab (Windows 95)

For the best print quality of images, **Resolution** should correspond to the resolution of the RISOGRAPH, but a lower **Resolution** may accelerate printing. In most cases, no change to the default **Resolution** value produce the best results.

Halftoning specifies values for the number of lines per inch (frequency) and the angle of the pattern desired for halftone screens.

The **Special** option allows you to **Print as a negative image** or **As a mirror image**. Negative image printing is useful only for black-and-white or coarse RGB images.

The **Scaling** option allows the page to be rescaled from 10% to 400%.

The **Watermarks** tab dialog box allows watermarks to be setup for documents. A watermark will print at a certain place on each page of a document.

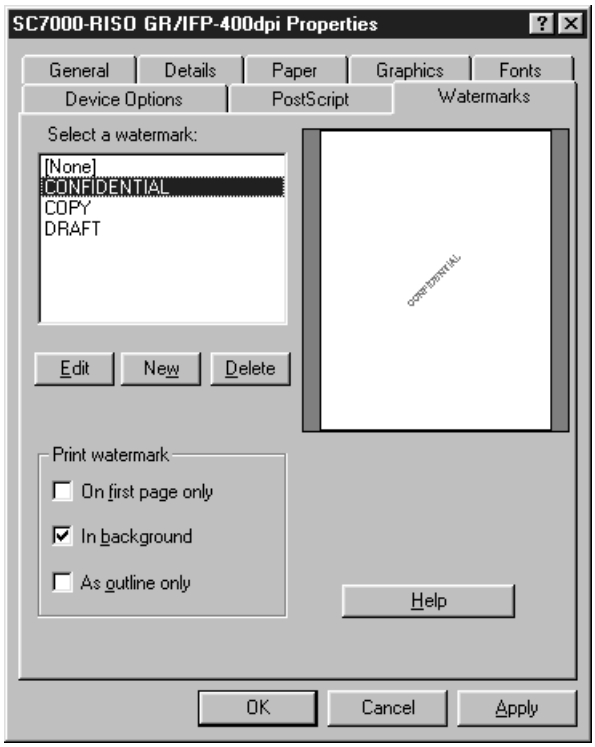

Figure 4.14: Properties Dialog box / Watermarks tab (Windows 95)

Choose a watermark for editing from the **Select a Watermark** list.

Watermarks are generally printed on all pages of a document. Click **On first page only** to print the watermark only on the first page.

Depending on the graphics in the document, printing the watermark **In background** or **As outline only** may be selected.

For more information on the **Watermark** tab and the **General** and **Fonts** tabs, please see the SC7000 Technical Administrator Manual. **Details** and **PostScript** tabs will be discussed later.

Click OK to exit the **Properties** dialog box.

From Windows 3.1x, you will find the **Paper** tab below: **(Windows 3.1x)**

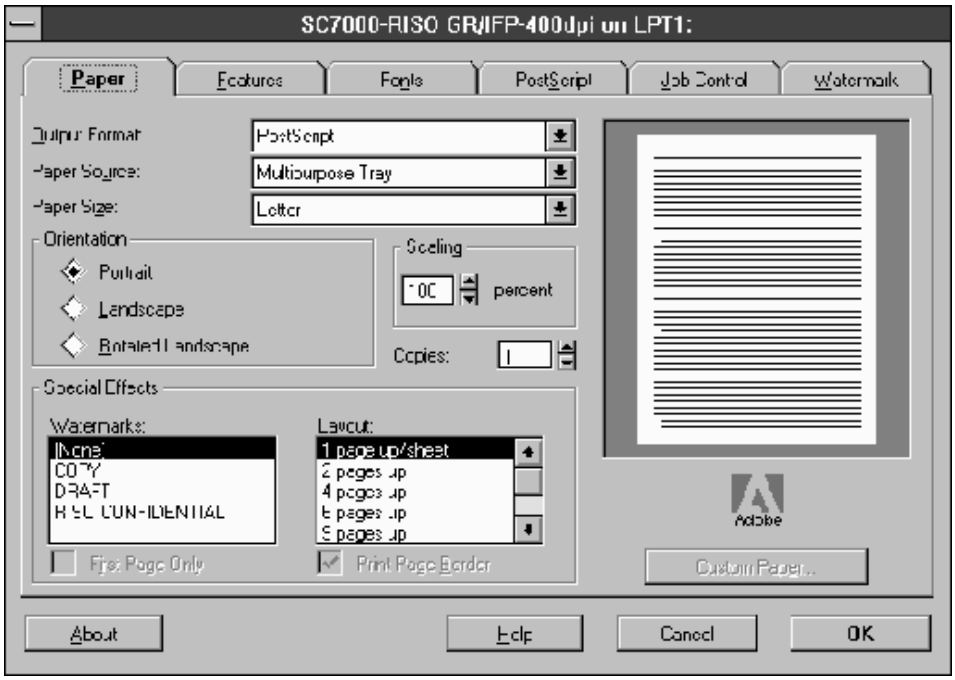

Figure 4.15: PostScript Printer Driver Setup / Paper Tab (Windows 3.1x)

Select a **Paper Size** according to your document setup. You may select **Custom Paper** if you want to enter the dimensions of a non-standard **Paper Size** manually. After choosing **Custom Paper**, click the **Custom Paper** button to enter the paper size.

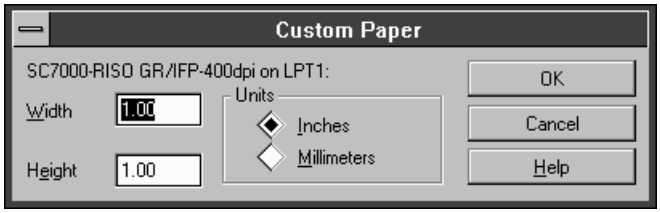

Figure 4.16: Custom Paper Dialog Box (Windows 3.1x)

There is no cross-check between a custom paper size and the size of the installed cylinder. Any value will be accepted if it is printable with the largest possible cylinder for the respective series of RISOGRAPH models. Therefore, please check that you enter a valid custom paper size for the cylinder which you are currently using.

During your first attempts, leave all other settings of the **Printer Driver Setup** dialog box as is. Nonetheless, the other options from the **Paper** tab will be discussed below.

Please see the previous section for the **Features** tab and refer to the *SC7000 Technical Administrator Manual* for information on the **Fonts**, **PostScript**, **Job Control** and **Watermark** tabs.

Use the **Output Format** option to select either **PostScript** for normal printing or **Encapsulated PostScript**. **Encapsulated PostScript** (EPS) is only useful for printing to a file and is restricted to one-page documents.

Paper Source cannot be changed because the RISOGRAPH offers only one paper feed tray.

Orientation distinguishes **Portrait** and **Landscape** pages. Orientation versus feed direction is described in the RISOGRAPH setup section. **Rotated Landscape** is similar to **Landscape** but reverses top and bottom of the page.

The **Scaling** option enables you to rescale the page in the range from 10% to 400%.

Do not change the number of **Copies** on the **Paper** file card. The value of **Copies** should always remain 1. The next section will show you a more convenient way to change the number of copies directly from within your application program.

Watermarks, defined by means of the **Watermark** tab may be selected for printing from the **Watermarks** list. Select **First Page Only** after selecting the watermark if you want to print it only on the first page of your document.

Select **None** from the **Watermarks** list for normal printing.

The **Layout** option allows several pages of a document to be printed on one sheet of paper. The document's pages are automatically adjusted to fit. Select **Print Page Border** to print a frame around each page if you print more than one document page per sheet.

Select **1 page up/sheet** for normal printing.

Click **OK** to exit the **Printer Driver Setup** dialog box.

4.1.5.2.3 PCL Driver Setup for Windows 95

To access the SC7000 PCL printer driver in order to set it up, use the following procedures:

Click the **Start** button in the lower left corner of the screen. Select **Settings**, then select **Printers**. In **Printers**, select the SC7000 PCL printer icon. Click **Properties** from the **File** menu.

A variety of tabs is visible on top of the printer driver's dialog box. Clicking one of the tabs makes the respective file card the uppermost on the stack.

Most of the tabs provide a **Restore Defaults** button which can be used to revert all settings to the original values. From any one of the tabs, you may either click **OK** to save your changes and leave the driver, click **Cancel** to leave without saving or click **Apply** to save all changes without leaving the printer driver.

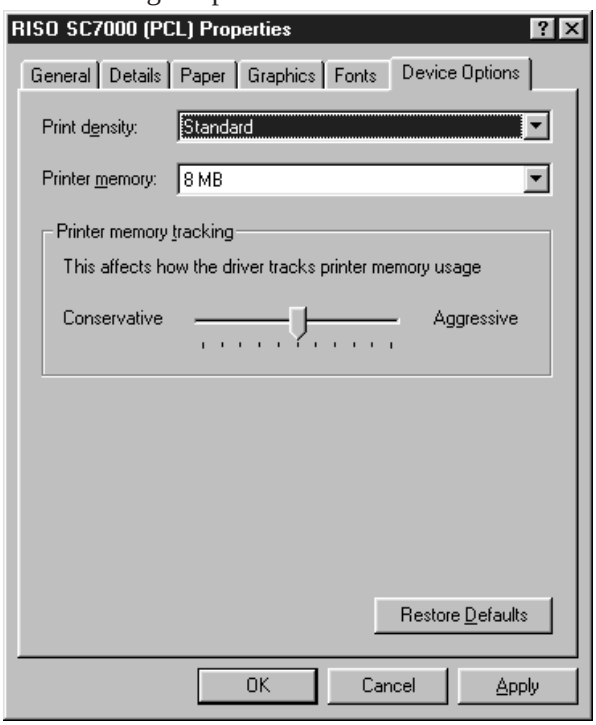

Figure 4.17: PCL Printer Driver / Device Options Tab (Windows 95)

Select the **Device Options** tab to change the RISOGRAPH's **Print Density**.

Select **Lightest**, **Light**, **Standard**, **Dark** or **Darkest** from the **Print Density** pull-down menu.

Choose the PCL printer driver's **Paper** tab to select print media options from Windows 95.

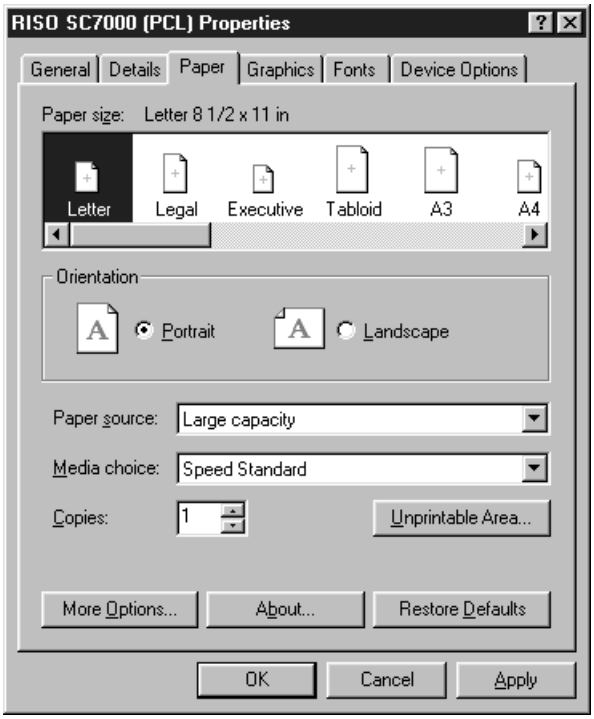

Figure 4.18: PCL Printer Driver / Paper Tab (Windows 95)

Click the desired **Paper size** which must match the paper in the RISOGRAPH's paper feed tray.

Click either **Portrait** or **Landscape** to select the **Orientation** of the printed page. Please refer to the section on the RISOGRAPH setup for a discussion of orientation versus feed direction.

The **Paper source** cannot be changed because the RISOGRAPH does not have more than one paper feed tray.

Select the print speed from the **Media choice** pull-down menu. Selecting the print speed from the computer must be supported by your RISOGRAPH model, otherwise the **Media choice** will be ignored.

Always select the number of copies from within the **Print** dialog box of your application program. It is important to leave the **Copies** count of the printer driver's **Paper** tab as 1.

Click **Unprintable Area** if you want to see the non-printable margins at the edges of the selected paper. It is recommended not to change the default values because they are optimized for best results with your RISOGRAPH.

Click **Other Options** to select a Sort Mode, provided that a sorter is connected to your RISOGRAPH. Select **Printer's Default** from the **Output Tray** pull-down menu if you want to use the default Sort Mode which is set by means of the SC7000 utility software. Alternatively, select one of the Sort Modes **Sort**, **Group**, **Stack** or **None**. Please refer to your sorter's documentation for a description of the Sort Modes.

4.1.5.2.4 PCL Driver Setup for Windows 3.1x

To access the SC7000 PCL printer driver in order to set it up , use one of the following procedures:

1. From the **Program Manager**, double-click **Control Panel** which is located in **Main**. Double-click **Printers**. In the **Printers** dialog box, select the SC7000 PCL printer from the list of **Installed Printers** and click **Setup**.
2. Alternatively, double-click **Print Manager** which is located in **Main**. Choose **Printer Setup** from the **Options** Menu. In the **Printers** dialog box, select the SC7000 PCL printer from the list of **Installed Printers** and click **Setup**.

Enter the **PCL Printer Driver** dialog after selecting the PCL printer from the **Printers** dialog box.

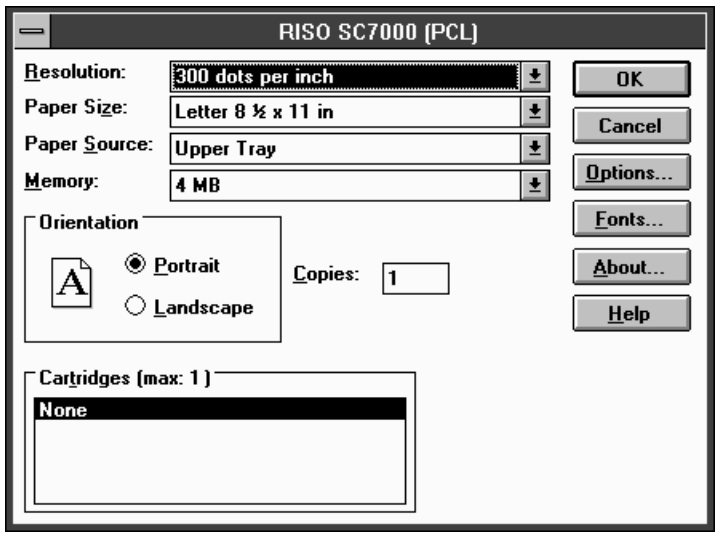

Figure 4.19: PCL Printer Driver (Windows 3.1x)

Select desired print resolution in the **Resolution** pull-down menu.

Select desired **Paper Size** corresponding to the size of the paper in the RISOGRAPH paper feed tray.

The **Paper Source** cannot be changed due to the RISOGRAPH single paper feed tray.

Memory indicates the installed SC7000 memory. Select a value in the **Memory** pull-down menu.

Click either **Portrait** or **Landscape** to select the **Orientation** of the printed page. Please see the section discussing orientation versus feed direction in the RISOGRAPH setup.

Always select the number of copies in the **Print** dialog box of the application program. In this case, **Copies** count should remain at 1.

Click **Options** to select more options from Windows 3.1x.

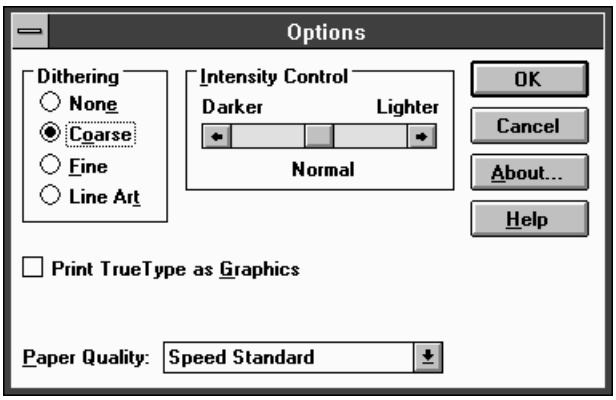

Figure 4.20: PCL Printer Driver Options (Windows 3.1x)

Click **None**, **Coarse**, **Fine** or **Line Art** from the **Dithering** options to select graphic quality.

Drag the **Intensity Control** scroll box to control the density of printed graphics.

Selecting the **Print True Type as Graphics** can save printer memory if a large number of True Type fonts are repeatedly used.

Paper Quality controls print speed. Use the pull-down menu to select the quality appropriate for desired print speed.

4.1.5.3 Printing Your Document

To print a document, choose **Print** from the **File** menu from within your application program.

Select the desired number of **Copies** in this **Print** dialog box. Do not change the **Copies** count on the **Paper** tab of the PostScript driver's dialog box.

Note that the RISOGRAPH will always generate one master for each page, print one or more proof copies from this master and finally print the selected number of copies from the same master. The number of proof copies may be selected from the **Device Options** tab of the PostScript driver's **Properties** dialog box of Windows 95 or from the **Features** tab of the PostScript driver's **Printer Driver Setup** dialog box of Windows 3.1x. Alternatively, it can be permanently set by means of the utility software described later in this manual.

Click **OK** or **Print** (depending on your application program) to start printing your document.

4.1.5.4 Printing to a File

There are two different methods to print to a file from within Windows.

Some application programs provide a **Print to File** checkbox in the **Print** dialog box. Check **Print to File** before printing. You will be asked for a destination directory and filename.

If your application program's **Print** dialog box does not have a **Print to File** checkbox, you must temporarily change your printer connection as below:

From Windows 95, click the Start button in the lower left corner of the screen. Select **Settings**, then select **Printers**. From the **Printers** dialog box, click the SC7000 printer icon. Choose **Properties** from the **File** menu. Click the **Details** tab in the **Properties** dialog box. Choose **FILE**: from the **Printer Ports** options to set up your computer for printing to a file.

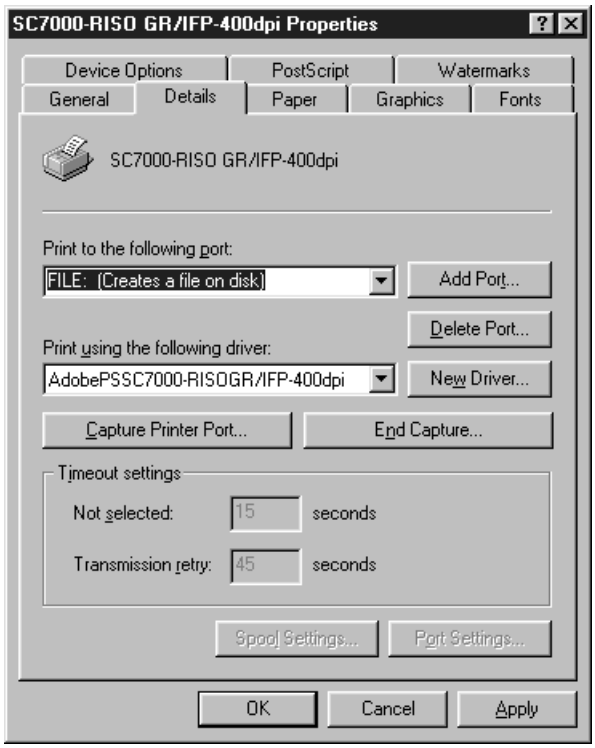

Figure 4.21: Properties Dialog Box / Details Tab (Windows 95)

Using Windows 3.1x, double-click **Printers** from the **Control Panel** which is located in **Main**. Select the SC7000 from the list of **Installed Printers**. Click **Connect**. Select **File** from the list of **Ports** and click **OK**.

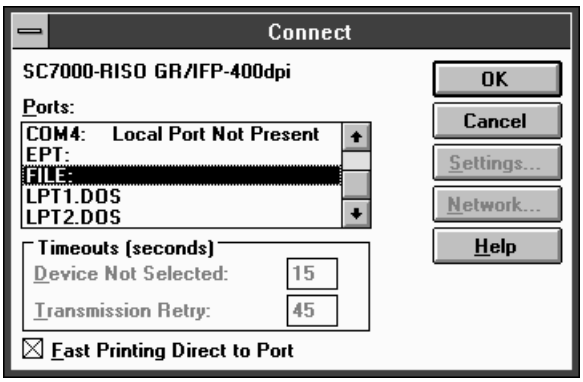

Figure 4.22: Connect Dialog Box (Windows 3.1x)

Your computer is now set up to print to a file. Before you print, click **Setup** to select suitable settings from the printer driver's setup dialog box. Make sure to restore the previous settings when you want to print directly to the SC7000.

4.1.5.4.1 PostScript Settings (Windows 95)

From Windows 95, click **PostScript** tab and select the desired **PostScript output format** from the pull-down menu among **PostScript (optimize for speed)**, **PostScript (optimize for portability)**, **Encapsulated PostScript (EPS)** and **Archive format.**

Select either **Download header with each print job** or **Assume header is downloaded and retained**.

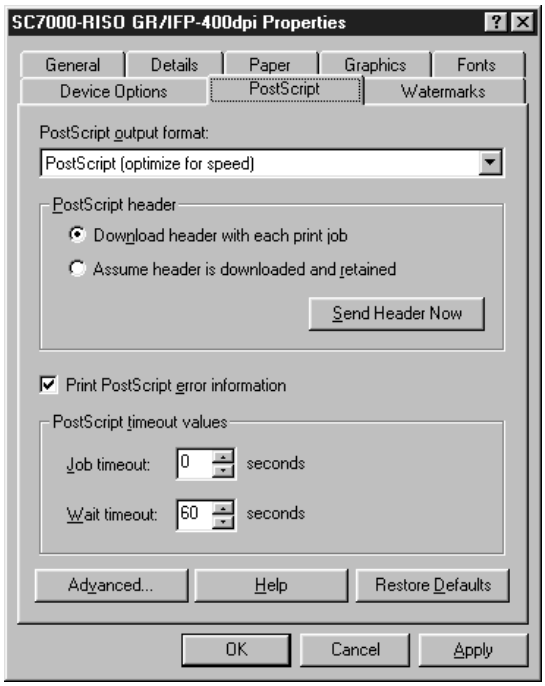

Figure 4.23: Properties Dialog Box / PostScript tab (Windows 95)

Click **Advanced** for more options.

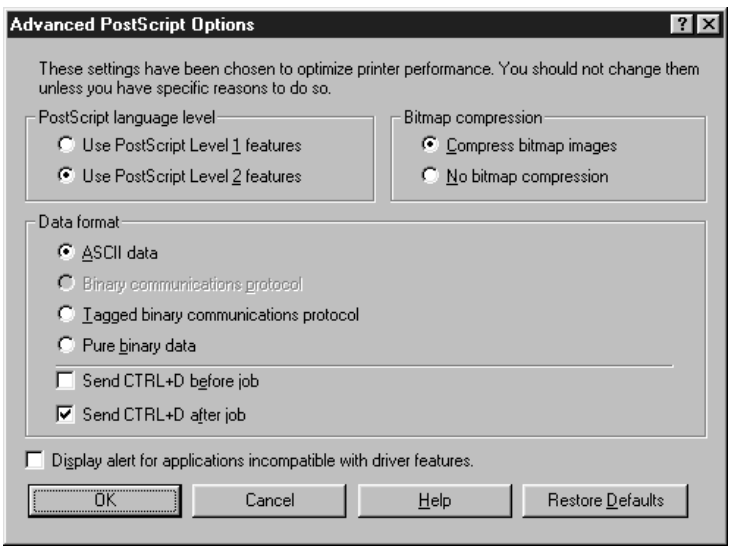
Advanced PostScript Options
These settings have been chosen to optimize printer performance. You should not change them unless you have specific reasons to do so.
PostScript language level
Use PostScript Level 1 features
Use PostScript Level 2 features
Bitmap compression
Compress bitmap images
No bitmap compression
Data format
ASCII data
Binary communications protocol
Tagged binary communications protocol
Pure binary data
Send CTRL+D before job
Send CTRL+D after job
Display alert for applications incompatible with driver features.
OK
Cancel
Help
Restore Defaults

Figure 4.24: Advanced PostScript Options (Windows 95)

Check **Use PostScript Level 2 features** to produce PostScript Level 2 data suitable for SC7000. PostScript Level 2 data often prints faster than Level 1 data but can only be used on PostScript Level 2 devices. To be compatible with PostScript Level 1 printers, **Use PostScript Level 2 features** must be left unchecked.

Use the **Bitmap compression** box to change the bitmap compression if necessary. Use this advanced feature only if you are using a Level 1 printer that is connected through a communication port.

Use the **Data Format** box to specify the format in which to send data to the printer. Note that not all printers support all formats.

Use the **ASCII** data option to send all data in Adobe Communication Protocol. ASCII Data format allows the file to print on any printer.

Use the **Tagged binary communications protocol** option to send all data except special characters in binary (8-bit) format over parallel or serial ports.

Use the **Pure binary data** option to send all data in pure binary format. This is the fastest format for printing, but can be sent only over the Ethernet.

Binary communication should be turned off if your printer supports binary communication and you are using the **Archive Format** option or creating an Encapsulated PostScript (EPS) file that may be printed on a printer that does not support binary communication. The Adobe Printer Driver does this automatically for you for the duration of the print job.

Use Font tab to specify which True Type fonts should be replaced with built-in printer fonts. Click **Send True Type fonts to printer according to the font Substitute Table** to edit the Substitution Table.

Always use built-in printer fonts instead of True Type fonts or **Always use True Type fonts** may also be selected.

SC7000-RISO GR/IFP-400dpi Properties
Device Options
PostScript
Watermarks
General
Details
Paper
Graphics
Fonts
Send TrueType fonts to printer according to the font Substitution Table
The Font Substitution Table enables you to specify which TrueType fonts should be replaced with built-in printer fonts.
Edit the Table...
Always use built-in printer fonts instead of TrueType fonts
If you use built-in printer fonts, jobs will usually print faster; however, jobs output from different printers may look different.
Always use TrueType fonts
If you use TrueType fonts, jobs will usually print slower; however, jobs output from different printers will look identical.
Update Soft Fonts
Send Fonts As...
Help
Restore Defaults
OK
Cancel
Apply

Figure 4.25: Properties Dialog Box / Font tab (Windows 95)

(WIndows 3.1x)

From Windows 3.1x, click the **Paper** tab to select either **PostScript** or **Encapsulated PostScript** from the **Output Format** options.

PostScript produces a PostScript file which can be downloaded by means of a PostScript file downloader, e.g. the SC7000 utility. The result is the same as when directly printing to the SC7000. **Encapsulated PostScript** creates an EPS file which can be embedded into other documents. EPS files include a PC-compatible (non-Macintosh) preview and are limited to one page.

Set the **Performance Options** from the PostScript tab.

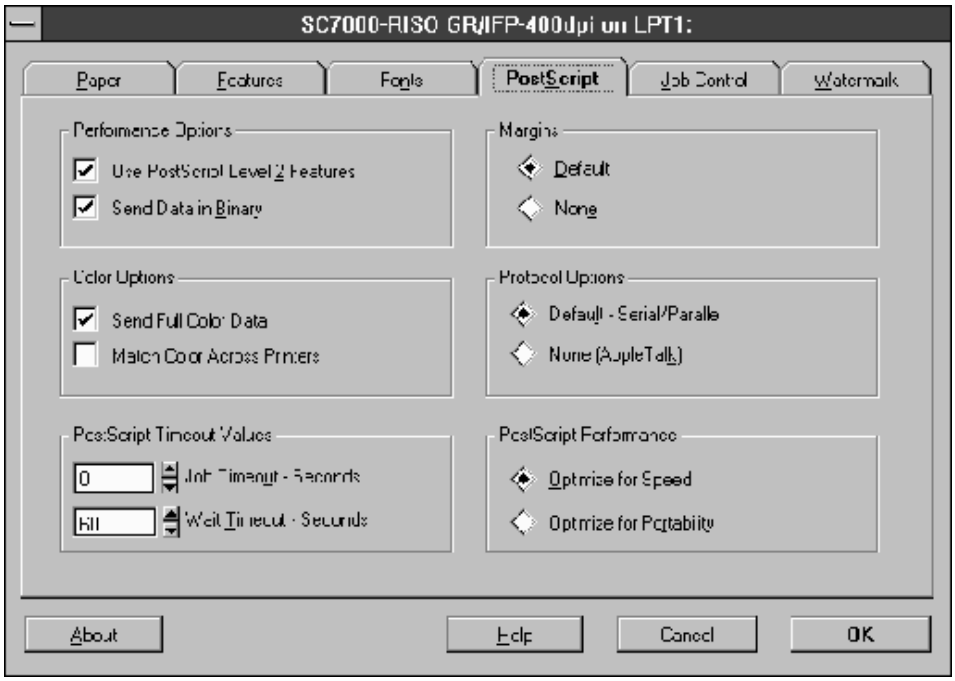

Figure 4.26: PostScript Printer Driver Setup / PostScript Tab (Windows 3.1x)

Check **Use PostScript Level 2 Features** to produce PostScript Level 2 data suitable for the SC7000. PostScript Level 2 data will often print faster than Level 1 data but can only be used on PostScript Level 2 devices. For compatibility with PostScript Level 1 printers, **Use PostScript Level 2 Features** must not be checked.

Choose between ASCII or binary PostScript data. The **Send Data in Binary** option produces less data and therefore prints faster. If you intend to transfer your file via telecommunications services, these services must fully support binary data transfer. If they do not, leave **Send Data in Binary** unchecked.

Select either **Optimize for Speed** or **Optimize for Portability** from the **PostScript Performance** options.

Furthermore, correct all settings for font embedding as necessary which are accessible from the **Fonts** tab. Alternatively, you may want to check **Do Not Download Fonts** from the **Job Control** tab. See the *SC7000 Technical Administrator Manual* for further information about the **Fonts** tab or ask your Technical Administrator for help.

4.1.6 MS-DOS

Printing from within an MS-DOS application program is different compared to printing from Windows or Mac OS. The reason is that printer drivers are not part of the MS-DOS operating system. Instead, each application program uses its own printer driver.

For this reason, we cannot describe a general technique to install and set up a printer driver. Furthermore, we cannot provide printer drivers for MS-DOS. To do so would mean writing hundreds of printer drivers, one for each popular MS-DOS application program. Instead we emulate two LaserJet printers, of which nearly all MS-DOS application programs have at least one built-in printer driver.

However, this section provides a guide to setting up your computer for printing from an MS-DOS application program to the SC7000.

4.1.6.1 MS-DOS Printing Guidelines

The printer driver should be setup by your Technical Administrator. Reading this section will help you understand several problems and limitations when printing from MS-DOS.

It is important when printing from within an MS-DOS application program to the SC7000 that a PostScript or LaserJet (PCL) printer driver must be installed in the MS-DOS application. This will probably not be a problem because nearly all MS-DOS application programs provide PostScript and/or HP LaserJet (PCL) printer drivers. But if your application program does not supply a PostScript or LaserJet printer driver, you will not be able to print to the SC7000.

Please see the documentation of your application program if there are PostScript or LaserJet printer drivers and how they are installed. If you want to print to the SC7000 from more than one MS-DOS application program, you need to install a suitable printer driver for each of them.

If you have the choice between different PostScript printer drivers, select a PostScript Level 2 driver. A PostScript Level 1 driver, such as Apple LaserWriter, will also work, but in most cases, using a Level 2 driver will improve performance.

If your application program does not have a suitable PostScript printer driver, select a LaserJet (PCL) printer driver. Since the SC7000 emulates the HP LaserJet III and LaserJet 4V printers, your best choice is a driver for one of these laser printers. If neither of those drivers is present, choose the driver for another PCL 5 or PCL 5e printer.

When you select a printer driver, pay special attention to paper sizes and feed directions. Some MS-DOS application programs come with a variety of PostScript and PCL printer drivers for several specific PostScript and PCL printers. Use a LaserJet 4V or LaserJet III printer driver if they are available. If not, select a driver for a PostScript or PCL printer with characteristics similar to your RISOGRAPH, i.e. a printer which supports the same paper sizes and which feeds the paper in the same direction as your RISOGRAPH (short edge or long edge first).

Only those paper sizes which are built into the printer driver will be selectable from within your application program.

To avoid prints with missing fonts, select a driver for a PostScript or LaserJet (PCL) printer which supports the same resident fonts as your SC7000. Otherwise, you may have to download missing fonts manually using the SC7000 utility software. The SC7000 has the same set of resident fonts as the Apple LaserWriter printer. The LaserJet III and LaserJet 4V printer emulations built into the SC7000 have the same resident fonts and font symbol sets as the emulated LaserJet printers. Those printer drivers are your best prospects for obtaining the expected printed output with the SC7000 from your MS-DOS documents.

You will not be able to select a Sort Mode from within an MS-DOS application program. Nevertheless, you may use a sorter for printing. Change the setup of the SC7000 by means of the SC7000 utility in order to set the desired Sort Mode.

4.2 RISOGRAPH Setup

4.2.1 Check This!

Your RISOGRAPH's setup must match the printer driver setup at all times. The computer's printer driver is not able to determine the RISOGRAPH's configuration automatically. For this reason, the user must ensure a match between the RISOGRAPH and the printer driver setup.

The setup of two installable options must be checked: Cylinder and sorter.

4.2.1.1 Sorter

The Sort option is easily examined. The printer driver must know if there is a sorter or not.

If there is a sorter installed and the driver set up accordingly, you can set the Sort Mode by means of the printer driver.

4.2.1.2 Cylinder Size

The second option, cylinder size, requires slightly more investigation. Most RISOGRAPHs are capable of using different cylinder sizes. Ask your Technical Administrator if there is more than one cylinder for the RISOGRAPH at your site. If the answer is yes, always allow for the possibility that somebody may have changed the cylinder without telling you.

Note that the SC7000 does not permanently monitor the RISOGRAPH for the current cylinder size. The RISOGRAPH's cylinder size is only checked once when the SC7000 is switched on or restarted. Therefore, a restart of the SC7000 is required whenever the cylinder size has changed.

Furthermore, the printer driver's setting of the cylinder size is independent of the SC7000 and must be done manually by the user. Depending on the printer driver's setting of the cylinder size, different paper sizes will be displayed for paper selection.

See the computer setup section above to learn how to set up the printer driver.

4.2.2 Paper Size and Feed Direction

4.2.2.1 Orientation Versus Feed Direction

Some confusion is often obscuring the terms "paper orientation" and "paper feed direction".

Orientation distinguishes portrait and landscape pages. It refers to the contents of a page but is independent of the way how the page is printed. Portrait or landscape orientation is defined by the user of the application program.

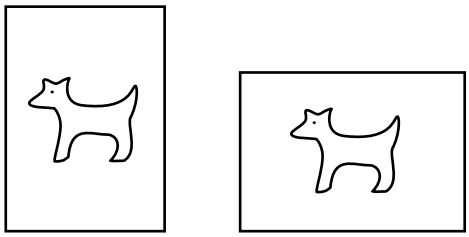

Figure 4.27: Orientation

The feed direction may be “short edge feed” or “long edge feed”. Short edge feed means that the printer feeds the paper with the short edge perpendicular to the feed direction. Long edge feed means that the printer feeds the paper with the long edge perpendicular to the feed direction. The feed direction is independent of the contents of the page.

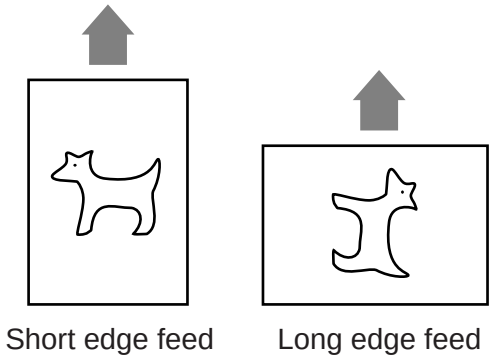

Figure 4.28: Feed Direction

4.2.2.2 Cylinder Size and Paper Size

There is a general rule for using different cylinder sizes in conjunction with the SC7000: Drums for long edge feed or “R” sizes like A4-R or Letter-R treat all paper sizes as long edge feed. Drums for short edge feed sizes like A3, B4 or Ledger (Tabloid) treat all paper sizes as short edge feed. Printing A4-R, for example, on a A3 cylinder is not supported, but printing A4 is supported instead.

By the way, no disadvantages will result from this behavior. Print speed with the A3 cylinder remains the same for A4 or A4-R due to the constant circumference of a particular cylinder.

4.2.2.3 Loading Paper

There is another general rule for printing with the SC7000: The user is responsible for loading paper of the correct size in the correct feed direction.

Always make sure that the paper loaded into the RISOGRAPH's paper feed tray corresponds to the paper size selected from the printer driver.

It is important to load paper of the correct size and feed direction before the master is made. Otherwise, the sizes of page and master do not match which may result in clipped edges of the printed page.

4.2.3 Online and Offline Operation

The RISOGRAPH must be in interface mode to communicate with the SC7000. The interface mode may be switched on or off by pressing the I/F key on the RISOGRAPH's control panel. Please see your RISOGRAPH's user manual for details on how to enable and disable the interface mode.

If interface mode is enabled and the SC7000 is able to communicate with the printer, the RISOGRAPH is "online". If communication between the SC7000 and the RISOGRAPH is impossible for any reason, the RISOGRAPH is "offline".

If there is any error condition at the RISOGRAPH, e.g. the paper feed tray is empty or the master disposal box is full, or when Auto Print mode is disabled, the RISOGRAPH automatically goes offline. The user is required to eliminate the error or to load paper and, after that, to manually switch the RISOGRAPH online again.

In case of an error condition, your computer will display a printer error message. Note that some computer systems may not be able to display error messages, please ask your Technical Administrator if you are in doubt.

The error message will indicate the nature of the problem. In most cases, the RISOGRAPH displays a more detailed error message or indication on its main display. After fixing the problem at the RISOGRAPH, make sure to enable the interface mode again.

See the appendix for a detailed discussion of error messages.

4.2.4 SC7000 Test Mode

The SC7000 needs to communicate with the RISOGRAPH at startup. Therefore, the RISOGRAPH must be connected to the SC7000 and must be switched on at the time when the SC7000 is switched on.

In case the SC7000 is switched on before the RISOGRAPH, the SC7000 waits for the RISOGRAPH for two minutes. If the RISOGRAPH is not switched on during this time, the SC7000 starts up in test mode.

In test mode, the SC7000 is able to communicate via its ports but is unable to print. Test mode may be useful to check or alter the setup of the SC7000 by means of the utility software when a RISOGRAPH is currently not available. This mode may also be used to investigate a technical problem.

When in test mode, the SC7000 must be restarted after connecting a RISOGRAPH in order to print.

Advanced Topics 5

5.1 Screens

Computer printers are digital machines. They distinguish “yes or no”, “on or off”, “black or white”. There is nothing in between.

The only thing they can do is to produce a black, i.e. ink-colored dot or not. Assuming white paper, “no dot” is equivalent to a white dot. Shades of gray cannot be reproduced due to limitations of the printing technology.

Screening is the technique to overcome this limitation. This section introduces two different screening methods in rough outline and explains how to print different screens with the SC7000 on a RISOGRAPH.

5.1.1 What’s an FM Screen?

5.1.1.1 Conventional Screening

The RISOGRAPH is a Digital Printer and therefore only capable of printing black or white dots. Fortunately, it prints a lot of these dots exactly side by side. A 400 dpi RISOGRAPH prints, for example, 400 dots per inch. Therefore, a square of one inch by one inch consists of 400 times 400 or 160,000 black or white dots.

Let's take a smaller square of 4 by 4 dots which equals a total of 16 dots. If these 16 dots are all white, the square is white. If they are all black, the square is black. But what happens if 8 dots are white and 8 dots are black?

One edge of our small square is 4/400 inches long, this equals the tiny size of 0.01 inches or 0,254 millimeters. If there is a large area on the page filled with a regular pattern of these small squares, side by side, the human eye's perception of this area will be gray.

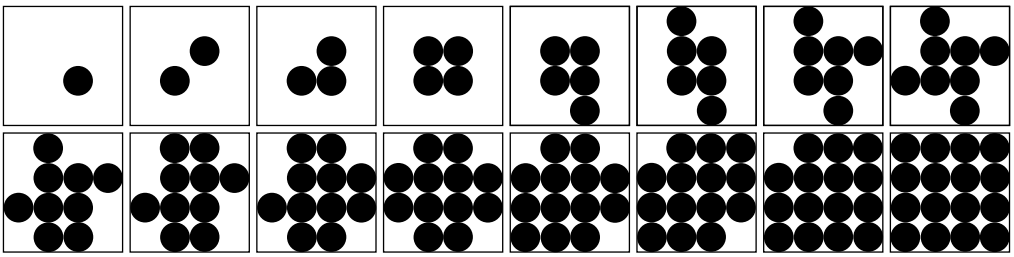

Figure 5.1: Possible Gray Levels of a Halftone Cell

Imagine, we can switch each of the 16 dots in the small square on or off, i.e. black or white. This results in 17 different levels of gray, including black and white. Using a regular pattern of the small squares instead of individual dots, we are able to reproduce shades of gray. The small squares are called halftone cells.

5.1.1.2 Screen Parameters

There is an important drawback when using screening methods as described above: The number of usable picture elements (pixels) becomes smaller. It is reduced from former 400 black or white pixels per inch to 400/4 = 100 gray-shaded pixels (or halftone cells) per inch, in case of a 4 by 4 dot halftone cell. We need to know some parameters which describe a screen to have a closer look at this effect.

As you already know, the number of possible gray levels depends on the size of each halftone cell. Let's use the term "size" for the number of dots along the edge of the halftone cell, e.g. the size of a 8 by 8 dot halftone cell shall be 8. The number of possible gray levels including black and white is the size squared plus one (see the example in the previous section):

$$\text{Number of possible gray levels} = (\text{Size of halftone cell})^2 + 1$$

The printer's resolution is given in dpi or dots per inch. The term "dot" refers to the dots of ink which can be physically printed by the machine. Resolution does not describe a screen but has a certain relation to screen frequency.

Screen frequency is the number of halftone cells per inch. It is specified in lpi (lines per inch) and describes how fine or coarse a screen appears. Usually, you'll wish to use a "fine" screen, i.e. a high screen frequency. But the screen frequency is limited by the printer resolution and the size of the halftone cell:

Screen frequency = Printer resolution / Size of halftone cell

Simply speaking, the finer the screen, the fewer levels of gray you can get at the fixed resolution of your RISOGRAPH.

Another parameter which describes a screen is the screen angle, given in degrees. When rotating the whole grid of halftone cells, the rows of halftone cells will be aligned to a certain angle. This angle is called the screen angle. Most often, a screen angle of 45° is used because it is the least noticeable.

In addition to these parameters, the shape of each halftone cell may differ. Except for black and white, there are several possibilities to determine the black and white dots inside the halftone cell for a given level of gray. This results in a particular shape of the black area inside a halftone cell.

The most often used shape is round, others are elliptical, line or square. Some application programs allow to define the shape.

5.1.1.3 Frequency-Modulated (FM) Screens

In addition to conventional screening techniques, there is a completely different approach to creating screens. It does not rely on a regular pattern of halftone cells which differ in the size of the black area inside.

Instead, frequency-modulated screens use black dots of small constant size but vary the distance between the dots (their frequency). A dark gray is produced by a large number of black dots in a given area while a light gray consists of a small number of black dots in that area.

Individual dots of FM screens appear to be randomly placed on the page and are significantly smaller than conventional halftone cells. This results in finer details while maintaining sufficient levels of gray. Note that there are no screen parameters like screen frequency, screen angle or shape for FM screens.

The SC7000 provides Adobe Brilliant Screens technology for creating FM screens.

5.1.2 Screen Selection

The SC7000 uses Adobe Brilliant Screens (FM screens) as default for PostScript documents, provided that **ABS Screening** is switched **On** from within the printer driver or utility software. Therefore, any PostScript document which does not contain screen settings will print with FM screens. When printing from within your application program, do not set any screen frequencies, screen angles or shapes (or select “default” if available) if you want to use FM screens.

To use conventional screening, set a specific screen frequency and screen angle from within your application program. Screen setup differs among different application programs or may be impossible from within particular application programs. Please, refer to the documentation of your application program on how to set up screening for your document.

Note that certain parts of a PostScript document may contain screen settings which are not valid for the whole document, particularly EPS (Encapsulated PostScript) files. This enables you to create documents containing different screens on the same page.

If **ABS Screening** has been switched **Off** from within the printer driver or by means of the utility software, the SC7000 uses conventional screens only.

Screen selection is not possible for PCL documents.

5.2 Typefaces

Typefaces, often called fonts, are crucial to the appearance of any text-based document.

Two different kinds of fonts are used in computer printers: bitmap fonts and vector fonts. Bitmap fonts consist of dot-by-dot descriptions (images) of each character for each size. Vector fonts consist of a mathematical description of each character’s outline. The main advantage of vector fonts over bitmap fonts is that vector fonts may be scaled to any size without loss of quality.

Furthermore, printer fonts (resident or downloaded) and screen fonts must be distinguished. Printer fonts are used by the SC7000 for printing while screen fonts are used by your computer for on-screen display.

Most font issues are handled automatically by the printer driver. If you need information about configuration options not covered by the following sections, please refer to the *SC7000 Technical Administrator Manual.*

5.2.1 Screen Fonts

Screen fonts are necessary to access and display the resident fonts of the SC7000 on your computer. They are always bitmap fonts optimized for display on low resolution computer screens.

Apple Macintosh screen fonts are supplied in a font suitcase which must be installed in the System Folder. Microsoft Windows screen fonts are built into the SC7000 printer driver.

After installing the screen fonts (or Windows printer driver), fonts can be easily selected from within the application program. Please refer to the documentation of your application software for information on how to select a particular font.

The application program does not only require a screen font to display the characters. It also uses the font metric information (i.e. the spacing between characters) included in the screen font for page make-up.

Therefore, screen fonts and printer fonts which do not match exactly may lead to different results on screen and printed paper.

Always make sure to use corresponding fonts for display and printing.

5.2.2 Font Formats

Each font which is used in a document must be accessible by the SC7000 for printing. In fact, a PostScript font is a PostScript program which creates the typeface on the SC7000.

5.2.2.1 PostScript Fonts

The SC7000 uses vector fonts in Adobe Type 1 (PostScript) format. Furthermore, the PostScript font formats Type 0, Type 3, Type 4, Type 5, Type 6, Type 9, Type 10 and Type 42 may be used.

TrueType fonts are handled in a configurable way (Windows driver only). The printer driver may automatically replace a TrueType font by the corresponding PostScript font. Alternatively, the TrueType font may be wrapped into some PostScript code by the printer driver. This makes the TrueType font a Type 42 PostScript font. Type 42 fonts can also be processed by the SC7000.

5.2.2.2 PCL Fonts

The SC7000 processes scaleable PCL fonts in Agfa Compugraphic's FAIS format and bitmapped PCL fonts. Furthermore, TrueType fonts can be used.

PCL fonts may be downloaded to memory only. They cannot be downloaded to the hard disk of the SC7000.

The SC7000 has several alternatives to access a font. For the user, the essential difference between these alternatives is how long the font persists in the memory of the SC7000.

5.2.3 Resident Fonts

Resident fonts are built-in typefaces which are accessible by the SC7000 at any time. See the appendix for a list of resident fonts or print a font page or font sample page as described in the utility software section.

When you use resident fonts in your document, the printer driver will only include the font names in the PostScript code which is sent to the SC7000. The font itself must not be included because it is already stored on the SC7000. Therefore, resident fonts print a bit faster than other typefaces.

5.2.4 Downloaded Fonts

The printer driver looks at the printer description file to determine if a font is resident on the machine. The driver may also ask the SC7000 for available fonts, but this does not work on computer systems which do not provide a two-way communication channel.

If the font is not already stored, it must be downloaded to the SC7000. There are several options for doing this as below.

5.2.4.1 Automatic Download

If the printer driver assumes that the font is not available on the SC7000, it automatically downloads the font as part of the document.

The lifetime of the font is limited to the specific document. After printing the document, the font will automatically be discarded.

5.2.4.2 Manual Download

Under certain circumstances, it may be necessary to download a font manually.

If for any reason the printer driver assumes a font to be resident even if it is not, the font is not sent as part of the document and the SC7000 uses “Courier” as default. Or, for example, if you print a lot of documents using a specific non-resident font, you may want to speed up printing by downloading the font once manually. This eliminates the need for automatic font download each time you print.

The font’s lifetime depends on the destination of your download. You may choose to download the font to memory or disk. When downloading a font to memory, it is accessible for printing until you switch off or reset the SC7000. When downloading a font to disk, it remains resident as long as it is not deleted.

How to manually download or delete a roman font is described in the sections about the SC7000 utility and PCL printer driver. The PostScript font downloader is part of the SC7000 utility software. PCL fonts can only be downloaded to memory, the font downloader is part of the PCL printer driver.

Non-roman PostScript fonts, e.g. Japanese fonts like Kanji, are supported by the SC7000J only.

Note that downloading a non-roman font to the SC7000J requires a particular downloader software. This downloader is part of the font package. Always use the specific downloader software which comes with the non-roman font you want to download. Please refer to the documentation of the font package on how to use the downloader.

There may be non-roman fonts which do not work with the SC7000J because they use a downloader which is not compatible with the SC7000J.

Downloading multiple master fonts is generally not recommended.

5.3 Duplex Printing

The SC7000 supports manual duplex printing.

To print both sides of the paper, the user must set the respective mode by means of the utility software and turn the paper stack upside down manually.

Both **Stop Before Next Master** and **Manual Duplex** modes are important for printing multi-page documents.

5.3.1 Stop Before Next Master

Use **Stop Before Next Master** to select the PostScript printer driver or utility software. When **Stop Before Next Master** is enabled, RISOGRAPH prints all first page copies and waits until the interface mode is enabled again before making the next page master. Duplex printing is possible. When the RISOGRAPH stops, the user may remove the paper from the paper receiving tray, turn it upside down, load it into the paper feed tray and enable the RISOGRAPH interface mode again.

5.3.2 Manual Duplex

Print Odd Pages, **Print Even Pages** or **Print All Pages** may be selected. Use the PostScript printer driver or utility software to select **Manual Duplex**.

5.4 Utility Software

5.4.1 Apple Macintosh

5.4.1.1 SC7000 Utility

The SC7000 utility is based on the Apple LaserWriter utility but has additional functions specific to the SC7000.

To run the SC7000 utility, double-click the **SC7000 Utility** icon from the SC7000 folder of your Macintosh's hard disk. Make sure to select the SC7000 in the Chooser before starting the **SC7000 Utility**.

The LaserWriter utility consists of three menus: **File**, **Edit** and **Utilities**. The menus are discussed in the following paragraphs.

Some of the menu items are not described in this manual because they are intended for use by the Technical Administrator only. Improper use may cause malfunctions of the SC7000 and even of your computer network.

Always ask your Technical Administrator before attempting to use any of the menu items not discussed here. Refer to the *SC7000 Technical Administrator Manual* for a complete description.

5.4.1.1.1 The File Menu

The **File** menu contains file and font-related functions.

Select **Download Fonts** from the **File** menu to download one or more fonts to the SC7000. Select **Printer** to download fonts to memory or choose **Printer's disk(s)** to permanently install fonts on hard disk. The pre-selected disk **SCSI Drive 0** cannot be changed.

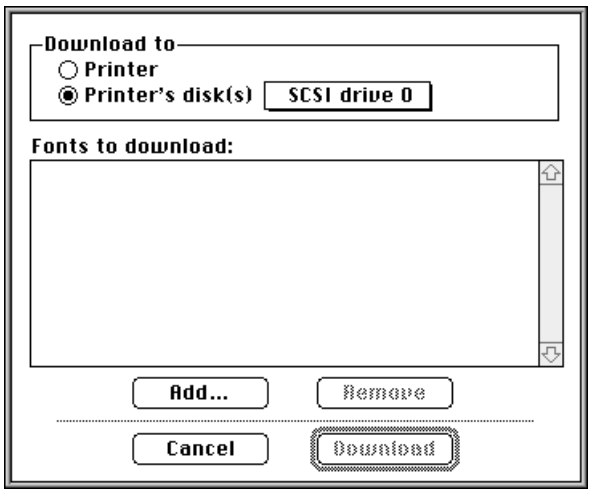

Figure 5.2: Download Fonts (Macintosh)

Click the **Add** button to add a font to the **Fonts to download** list. If you decide not to download a font you added before, select the font from the **Fonts to download** list and click **Remove**. Finally, click **Download** to download the fonts from the **Fonts to download** list.

Select **Display Available Fonts** to display a list of fonts installed on the SC7000. Choose **Printer's Disk(s)** to display resident or permanently downloaded fonts. Choose **Printer** to display fonts downloaded to memory.

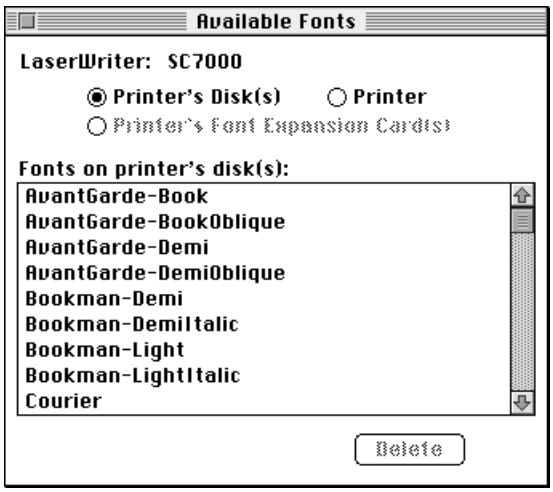

Figure 5.3: Display Available Fonts (Macintosh)

To delete a permanently downloaded font from the hard disk of the SC7000, select the font from the **Fonts on printer's disk(s)** list and click **Delete**. To delete fonts from memory, see **Restart Printer** from the **Utilities** menu.

Do not use **Initialize Printer's Disk** from the **File** menu, it is not intended for use with the SC7000.

Page Setup from the **File** menu displays the printer driver's **Page Setup** dialog box. The **Page Setup** dialog box is described in the paragraph on the Macintosh printer driver in the computer setup section of this manual. Use **Page Setup** to set up the page before printing the font catalogue, font samples or configuration page. Note that the page setup is ignored when using **SC7000 Print Page** from the **Utilities** menu.

Choose **Print Font Catalog** to print a list of installed fonts. Select **Print Font Samples** to print samples of installed fonts.

Once you have finished working with the SC7000 LaserWriter utility, select **Quit** from the **File** menu.

5.4.1.1.2 The Edit Menu

The LaserWriter utility offers a standard set of editing functions: **Undo**, **Cut**, **Copy**, **Paste** and **Clear**.

Please refer to your Macintosh's documentation if you need an explanation of the editing functions.

5.4.1.1.3 The Utilities Menu

Note that some of the items in the **Utilities** menu are disabled because they cannot be used in conjunction with the SC7000: **Imaging Options**, **Calibrate Printer**, **Configure Communication**, **Remove TrueType**, **Change Zone**, **Print Density**, **Paper Handling** and **Power Saving** are grayed out and therefore cannot be selected.

Name Printer from the **Utilities** menu allows you to change the printer name which is displayed by the Chooser. Renaming the printer should be done only by the Technical Administrator.

Select **Get Page Count** to display the total number of pages printed on your SC7000.

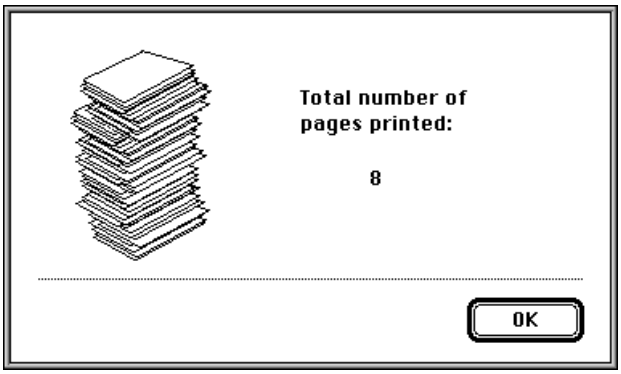

Figure 5.4: Get Page Count (Macintosh)

To download a PostScript file to the SC7000, select **Download PostScript File** from the **Utilities** menu. This feature allows you to print documents which have been previously saved as a PostScript file.

Select the desired PostScript file. Click **Download** to download the file. Do not use **Download PostScript File** to download fonts. Use **Download Fonts** from the **File** menu instead.

Select **Restart Printer** to restart the SC7000. Click **Restart** to confirm the message which appears on your screen. All fonts downloaded to memory will be deleted, but fonts downloaded to disk will not be affected. Make sure not to disturb other users when restarting the SC7000.

Change Zone changes your network setup. Do not use this menu item, it is for use by the Technical Administrator only.

Select **SC7000 Print Page** to print one of five different test pages. Choose **Self Test Page**, **Settings Page**, **Font List Page**, **Sample Page** or **Font Sample Page** from the **Print** pull-down menu. Click **Print** to print the selected page.

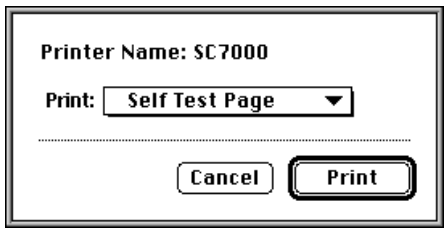

Figure 5.5: SC7000 Print Page (Macintosh)

See the appendix of the *SC7000 Technical Administrator Manual* for a description of the individual test pages. Note that the page size is independent of settings made in **Page Setup** from the **File** menu.

Click **SC7000 Setup General** to display general configuration information for SC7000 and RISOGRAPH.

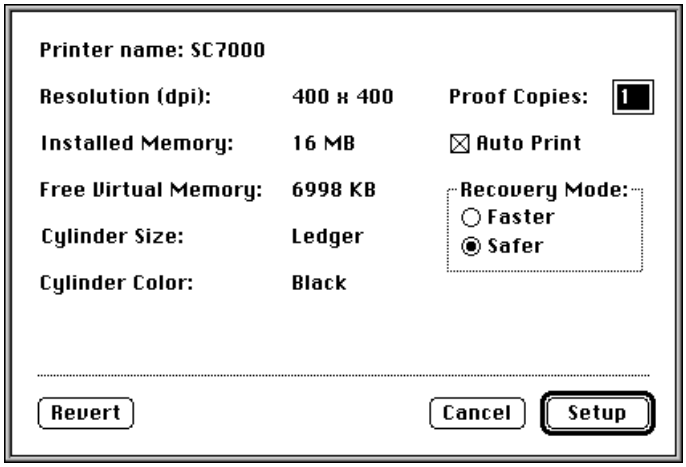

Figure 5.6: SC7000 Setup General (Macintosh)

Configuration information includes **Resolution**, **Cylinder Size** and **Cylinder Color** of the connected RISOGRAPH and **Installed Memory**, **Free Virtual Memory** of the SC7000.

The SC7000 detects the RISOGRAPH's **Cylinder Size** at startup, therefore this information may be out-of-date if somebody has changed the cylinder in the meantime. Installed memory refers to the installed hardware. Free virtual memory denote resources of the PostScript interpreter.

Furthermore, **SC7000 Setup General** allows you to set the number of **Proof Copies**, to disable or enable **Auto Print** mode and to set the **Recovery Mode**. Changing these settings may interfere with the work of other users. Consult your Technical Administrator before making any changes. Click **Revert** to restore the initial settings.

The **Recovery Mode** determines the moment when the frame buffer of the SC7000 is cleared to compute the next page.

Faster causes the SC7000 to discard the contents of the frame buffer immediately after data transmission to the RISOGRAPH. The SC7000 begins to compute the next page while the RISOGRAPH is making the master. If the master jams, the error cannot be recovered and the page of the document must be printed later again.

If the **Recovery Mode** is **Safer**, the SC7000 stores the frame buffer until the master is completed and the RISOGRAPH starts printing. It will take some more time until the following page can be printed. If a jam occurs while making the master, the error can be recovered and a new master can be made immediately.

SC7000 Setup Printing allows you to set several parameters for printing. It is recommended not to change these parameters except in coordination with the Technical Administrator because other users will be affected. Click **Revert** to get back to the initial values.

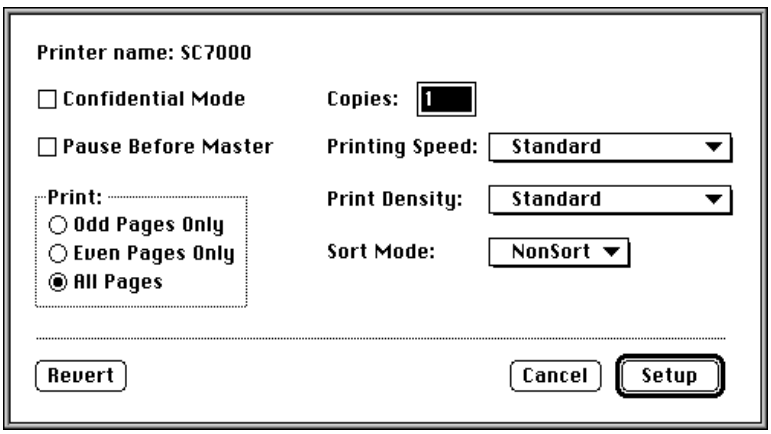

Figure 5.7: SC7000 Setup Printing (Macintosh)

The number of **Copies** overrides settings included in a PostScript document provided that **Copies** differs from 1. Changing the number of **Copies** may be useful if a document is only available as a PostScript file for download and if the PostScript file does not specify the desired number of copies.

Usually, you will print from within an application program and select the number of copies in the **Print** dialog box of your application. In this case, it is important to leave the **Copies** setting as 1.

Confidential Mode is disabled by default. To enable **Confidential Mode**, check **Confidential Mode** in the **Printing** dialog box. The last master of your document will be immediately removed from the cylinder after printing if **Confidential Mode** is enabled.

When **Auto Print** mode **On** is set, the RISOGRAPH will automatically generate and print a master. When **Auto Print** mode is **Off**, the RISOGRAPH generates a master, prints one proof copy and stops until the interface mode is enabled again.

When **Auto Print** mode **On** is set, set **Stop Before Next Master On** to generate all first page copies until the interface mode is enabled again.

When **Stop Before Next Master** mode **Off** is set, RISOGRAPH continues to the next master. Please refer to the section discussing duplex printing.

Use the **Manual Duplex** field to select **Print All Pages**, **Print Even Pages**, or **Print Odd Pages**. Please refer to the section discussing duplex printing.

Setting the **Print Speed** or **Print Density** from the respective pull-down menu has the same effects as setting print speed or print density from the RISOGRAPH's control panel. Choose between **Slowest**, **Slow**, **Standard**, **Fast** and **Fastest** for the **Print Speed** and between **Lightest**, **Light**, **Standard**, **Dark** and **Darkest** for the **Print Density**.

The **Sort Mode** selected from the **Sort Mode** pull-down menu overrides settings included in a PostScript document provided that it differs from **NonSort**. Available **Sort Modes** are **NonSort**, **Sort**, **Group** and **Stack**. See your sorter's user manual for information about the Sort Modes.

It may be useful to set a **Sort Mode** if a document is only available as a PostScript file for download and if the PostScript file does not specify the Sort Mode. It may also be useful when printing from systems which do not allow PPD (PostScript Printer Description) files for the SC7000, e.g. MS-DOS.

Make sure to reset the **Sort Mode** to **NonSort** for normal operation.

SC7000 Setup PostScript, **SC7000 Setup Communication**, **SC7000 Initialize Disk** and **SC7000 Restore Factory Defaults** from the **Utilities** menu are for administrator use only and therefore described in the *SC7000 Technical Administrator Manual.*

5.4.2 Microsoft Windows

5.4.2.1 SC7000 Utility

The SC7000 utility is the essential tool to set up the SC7000. It consists of five menus called **File**, **Print**, **Setup**, **Maintenance** and **?**, the help menu.

Some items from the **Setup** menu and the **Maintenance** menu are intended for use by the system administrator. Improper use may cause malfunctions of the SC7000 and even of your computer network. Therefore they are described in the *SC7000 Technical Administrator Manual* only.

The **File** menu, the **Print** menu and the **?** menu may be helpful for the Technical Administrator as well as for any user of the SC7000. For that reason, these menus are described in this section of the *SC7000 User Manual*.

The printer driver must be installed and set up in order to use the SC7000 utility.

Some functions of the SC7000 utility require bi-directional communication, i.e. a back-channel to send data from the SC7000 back to your computer. The ability to communicate in both directions depends on computer hardware and operating system software.

If bi-directional communication is not supported, the SC7000 utility will display **Current** instead of a read-back value. Furthermore, **Current** may be selected by the user in certain situations instead of a value. This simplifies the procedure to change some settings from a dialog box without touching the others. If you want to change one item in a dialog box, select **Current** for all other items to ensure that they remain unchanged.

If you need to know the current settings of the SC7000 but bi-directional communication is not supported by your system, print the **Settings Page** from the **Print** menu of the SC7000 utility.

5.4.2.1.1 The File Menu

The first thing to do when working with the SC7000 utility is to select the current printer. Choose **Select Printer** from the **File** menu, select the SC7000 from the list of installed printers and click **OK**.

To download a PostScript file to the SC7000, select **Download File** from the **File** menu. **Download File** allows documents which have been previously saved as a PostScript file to be printed. Choose the desired PostScript file from the dialog box which appears on the screen. Click **Open** to start downloading the file.

Select **Manage Fonts** from the **File** menu to view, download or remove fonts of the SC7000. Choose **From SC7000's Memory** to display a list of fonts in memory or **From SC7000's Disk** to display a list of hard disk-resident fonts of the SC7000. Displaying a font list requires bi-directional communication between your computer and the SC7000.

Please see the section on typefaces if you need more detailed information about the differences between fonts in memory and on disk.

Note that fonts can only be removed if they reside on the **From SC7000's Disk**. To remove a font from disk, select the font from the displayed list of fonts and click **Remove**. If you wish to remove fonts from memory, the SC7000 must be restarted as described below.

To download fonts to memory or disk, click **Download**. Select either **From SC7000's Memory** or **From SC7000's Disk**, depending on the desired destination of your font download. **Add** or **Remove** selected font files to or from the **Fonts to download** list. Alternatively, click **Add all** to add all font files from the selected folder or click **Remove all** to clear the **Fonts to download** list. When you have finished to build your list of **Fonts to download**, click **Download** to start downloading all fonts from the list.

Choose **Restart Printer** from the **File** menu if you want to restart the SC7000. Click **Restart** to confirm the message which appears on screen. Make sure that other users do not currently use the SC7000 before you attempt to restart it. After restarting the SC7000, all previously downloaded fonts will be removed from memory, but fonts on the printer's disk will not be affected.

Once you have finished your work with the SC7000 utility, select **Quit** from the **File** menu.

5.4.2.1.2 The Print Menu

The **Print** menu enables you to print six different built-in PostScript pages serving as an aid for setup and test of the SC7000.

Select **Self Test Page** to print the results of a self-test of the SC7000.

Choose **Settings Page** to print information about the current setup of the SC7000.

Choose **Font List Page** to print a list of currently installed PostScript fonts of the SC7000.

Select **Sample Page** to print a page containing text, artwork and images.

Select **PostScript Font Sample Page** to print a font list which shows each PostScript font using the original typeface.

Select **PCL Font Sample Page** to print a font list which shows each PCL font using the original typeface.

Note that the self-test page can also be printed without this utility and even without a computer. Please see the SC7000 operator panel section for details.

5.4.2.1.3 The Setup Menu

The **Setup** menu is divided into five sections called **General**, **Printing**, **PostScript**, **Communication** and **LaserJet Emulation (PCL)**.

It is especially for use by the Technical Administrator to configure the SC7000, but the **General** and **Printing** sections may also be useful for other users in certain cases.

Always ask your Technical Administrator before making any changes in the **General** or **Printing** dialog boxes. Do not attempt to use the **PostScript**, **Communication** or **LaserJet Emulation (PCL)** dialog boxes, they are for administrator use only.

Select **General** to enter the **General** dialog box.

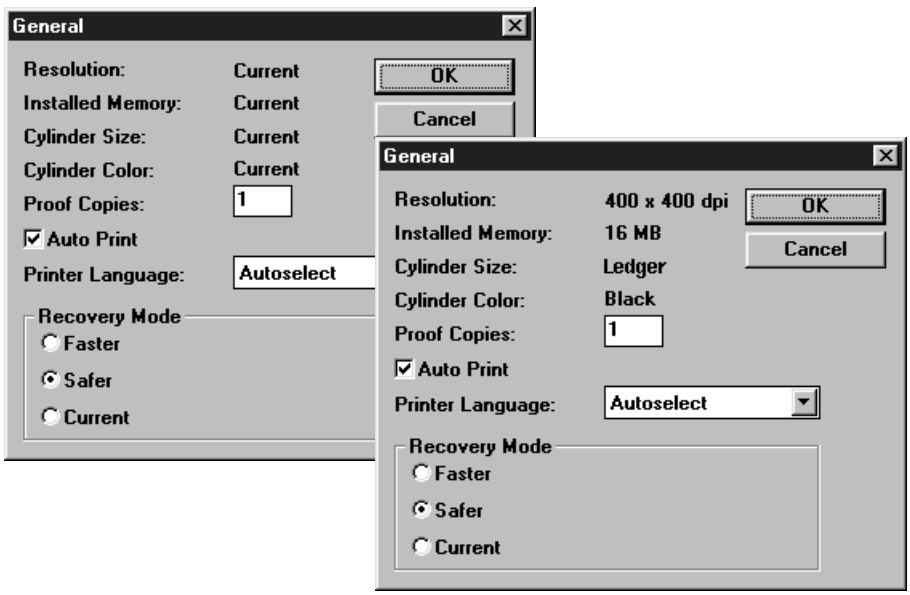

Figure 5.8: General Dialog Box (Windows)

The **General** dialog box displays the **Resolution** of the RISOGRAPH, the size of **Installed Memory** of the SC7000 as well as **Cylinder Size** and **Cylinder Color** of the RISOGRAPH. Note that the SC7000 detects the RISOGRAPH's **Cylinder Size** at startup, therefore this information may be out-of-date if somebody has changed the cylinder in the meantime.

Furthermore, the **General** dialog box allows the number of **Proof Copies** to be changed, the **Auto Print** mode to be disabled or enabled and the **Printer Language** and **Recovery Mode** to be set.

Choose the desired number of **Proof Copies**. Select any number between **0** and **9**. Proof copies will be printed in addition to the regular copy count which can be selected from the **Print** dialog box of your application program.

When **Auto Print** mode **On** is set, the RISOGRAPH repeat a cycle of generating and printing a master. When **Auto Print** mode is **Off**, the RISOGRAPH generates a master, prints one proof copy and stops until the interface mode is enabled again.

Printer Language enables you to manually switch between the **PostScript** interpreter and the **LaserJet Emulation** (PCL) of the SC7000. If **Auto Select** is set which is the recommended setting, the SC7000 will automatically determine if print data is in PostScript or PCL format. Some rare cases, e.g. printing a PostScript program listing, may require to set the Printer Language manually.

The **Recovery Mode** determines the moment when the frame buffer of the SC7000 is cleared to compute the next page.

Faster causes the SC7000 to discard the contents of the frame buffer immediately after data transmission to the RISOGRAPH. The SC7000 begins to compute the next page while the RISOGRAPH is making the master. If the master jams, the error cannot be recovered and the page of the document must be printed later again.

If the **Recovery Mode** is **Safer**, the SC7000 stores the frame buffer until the master is completed and the RISOGRAPH starts printing. It will take some more time until the following page can be printed. If a jam occurs while making the master, the error can be recovered and a new master can be made immediately.

Jams of the master during the printing process cannot be recovered, independent of the **Recovery Mode** settings. However, the user may eliminate a paper jam and print additional copies if the paper jam did not damage the master.

The **Printing** dialog box from the **Setup** menu lets you view and change the following settings:

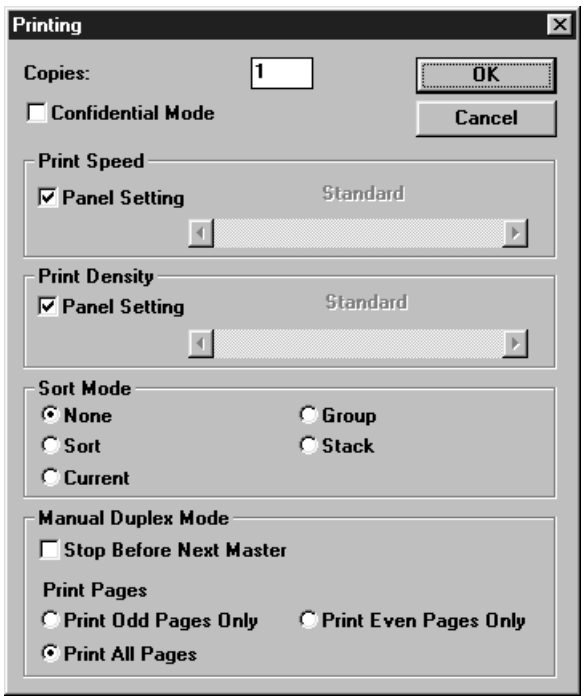

Figure 5.9: Printing Dialog Box (Windows)

The number of **Copies** overrides settings included in a PostScript document provided that **Copies** differs from 1, the default. Changing the number of **Copies** may be useful if a document is only available as a PostScript file for download and if the PostScript file does not specify the desired number of copies.

Usually, you will print from within an application program and select the number of copies in the **Print** dialog box of your application. In this case, it is important to leave the **Copies** setting in the **Printing** dialog box from the **Setup** menu as 1.

Confidential Mode is disabled by default. To enable **Confidential Mode**, check **Confidential Mode** in the **Printing** dialog box. The last master of your document will be immediately removed from the cylinder after printing if **Confidential Mode** is enabled.

Setting the **Print Speed** or **Print Density** in the **Printing** dialog box of the **Setup** menu has the same effects as setting print speed or print density from the RISOGRAPH's control panel. Move the respective slider to choose between **Slowest**, **Slow**, **Standard**, **Fast** and **Fastest** for the **Print Speed** and between **Lightest**, **Light**, **Standard**, **Dark** or **Darkest** for the **Print Density**. Alternatively, check **Panel Settings** to use those **Print Speed** or **Print Density** settings which are currently selected at the RISOGRAPH's control panel.

The **Sort Mode** selected in the **Printing** dialog box of the **Setup** menu overrides settings included in a PostScript document if different from **NonSort**, the default setting. Available **Sort Modes** are **NonSort**, **Sort**, **Group**, **Stack** and **Current**. Refer to your sorter's user manual for information about the Sort Modes.

It may be useful to set a **Sort Mode** if a document is only available as a PostScript file for download and if the PostScript file does not specify the Sort Mode. It may also be useful when printing from systems which do not allow PPD (PostScript Printer Description) files for the SC7000, e.g. MS-DOS.

Make sure to reset the **Sort Mode** to **NonSort** for normal operation.

Stop Before Next Master is disabled by default in the **Manual Duplex Mode** field. Enable **Stop Before Next Master** to generate all first page copies until the interface miode is enabled again.

Print All Pages, **Print Odd Pages Only** and **Print Even Pages** may be selected in the **Print Pages** field.

Please see the section on duplex printing for details.

5.4.2.1.4 The Help Menu

Online help is available by choosing **Help** from the **?** menu.

To obtain information about the version of your SC7000 utility software, select **About SC7000 Utility** from the **?** menu.

5.4.3 MS-DOS

5.4.3.1 SC7000 Utility

The SC7000 utility for MS-DOS closely resembles the SC7000 utility for Microsoft Windows.

The user interface of the SC7000 utility for MS-DOS can be controlled by keyboard and mouse (optional). In the latter case a suitable mouse driver must be loaded on your MS-DOS computer.

When using the keyboard, hold down the **<ALT>** key and press the highlighted letter of the menu name to enter the menu. Press **F** while holding **<ALT>** to enter the **File** menu, for example. Use the arrow keys to highlight a menu item and press **<ENTER>** to select the highlighted item.

Once you have entered a dialog box, use the **<TAB>** key to select a value to edit.

Alternatively, click the mouse to select menus and menu items.

The SC7000 utility for MS-DOS provides the same menus and functions as its Windows equivalent except for the **File** menu.

The **File** menu offers **Select Port** instead of **Select Printer** to select the port where the SC7000 is connected to.

Furthermore, the **File** menu offers **Download Font** instead of **Manage Fonts**:

Figure 5.10: Download Font (MS-DOS)

Select **Download Font** from the **File** menu to download a font to the SC7000. Choose one of the download destinations **Memory** or **Disk**. Select a font from the list of available fonts and click **Download** to start downloading the font.

Please refer to the description of the SC7000 Utility for Windows above to learn about other menu items.

5.5 Scanning

5.5.1 Apple Macintosh

Scanning application programs provide a menu item which is used to acquire a new scan. After installation of the SC7000 scanner driver and, possibly, configuration of your application program, the SC7000 can be accessed from within this menu. The name of the menu item is usually **Scan** or **Acquire**, depending on your scanner application program.

Configuration of the application program in order to use the SC7000 TWAIN driver should be done by your Technical Administrator. Please refer to the documentation of your scanning application program for details about how to scan an image.

Select **Scan** (or whichever name is used) from your application program to get to the **SC7000 Scan Control** dialog box.

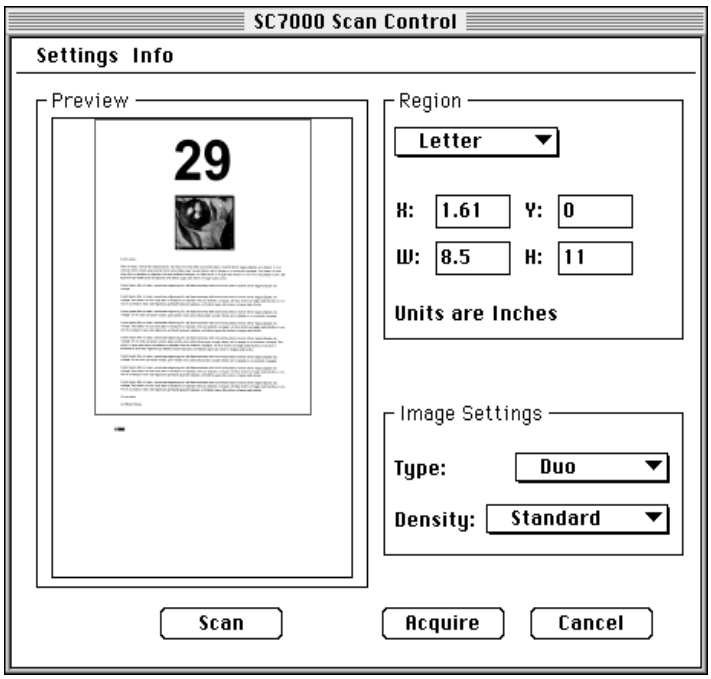

Figure 5.11: SC7000 Scan Control Dialog Box (Macintosh)

The **SC7000 Scan Control** dialog box offers two menus called **Settings** and **Info**.

Enable **Negative Image** from the **Settings** menu if you want to get a negative image. Choose either **Millimeters**, **Inches** or **Pixels** from the **Settings** menu to determine the unit of measurement which is used to define a crop region.

Scanning and duo mode are not supported by all RISOGRAPH models. Select **Status** from the **Info** menu to display RISOGRAPH status information. Since this information is read from the SC7000 back to your computer, it also serves as a test for the SCSI connection which is used for scanning.

The **Info** dialog box tells you if the connected RISOGRAPH provides **Duo Mode Support** and **Scanning Support**. Furthermore, the **Resolution** of the RISOGRAPH is displayed. Click **OK** to exit the **Info** dialog box.

Before you begin to scan an original, select the **Image Settings** from the **SC7000 Scan Control** dialog box:

Choose the **Type** of the original from **Line**, **Photo** and **Duo**. Note that **Duo** mode cannot be selected if it is not supported by your RISOGRAPH. Adjust the scanning **Density** by choosing **Lightest**, **Light**, **Medium Light**, **Standard**, **Medium Dark**, **Dark** or **Darkest**. Please refer to the RISOGRAPH's user manual for a description of these modes.

To scan an image, place the original on the RISOGRAPH's scanner platen and click the **Scan** button. When the RISOGRAPH has finished scanning, a **Preview** of the scanned original is displayed. Even if the full-resolution scan is always black & white, the low-resolution **Preview** is gray scale to improve readability.

Before transferring full-resolution image data from the SC7000 to your computer, select a crop **Region**. There are three different ways to define a crop **Region**:

The first one is to edit a crop region in the **Preview** window by means of the mouse. Move the mouse cursor to one corner of the desired region, click the mouse button and drag the corner. Repeat with the opposite corner.

Alternatively, select a paper size from the crop **Region** pull-down menu. The selected size refers to the markings at the RISOGRAPH's scanner platen.

The third way is to enter values for a **Custom** crop **Region**: Enter X and Y values to define the upper left corner's horizontal and vertical coordinates. Enter W and H values to define the width and height of the crop region. The unit of the entered values may be changed by means of the **Settings** menu.

Finally, click **Acquire** to transfer high-resolution black & white image data of the defined crop region from the SC7000 to your computer.

5.5.2 Microsoft Windows

5.5.2.1 Scanning from Your Application

Scanning application programs provide a menu item which is used to acquire a new scan. After installation of the SC7000 scanner driver and, possibly, configuration of your application program, the SC7000 can be accessed from within this menu. The name of the menu item is usually **Scan** or **Acquire**, depending on your scanner application program.

Configuration of the application program in order to use the SC7000 TWAIN driver should be done by your Technical Administrator. Please refer to the documentation of your scanning application program for details about how to scan an image.

Select **Scan** (or whichever name is used) from your application program to get to the **SC7000 Scan Control** dialog box.

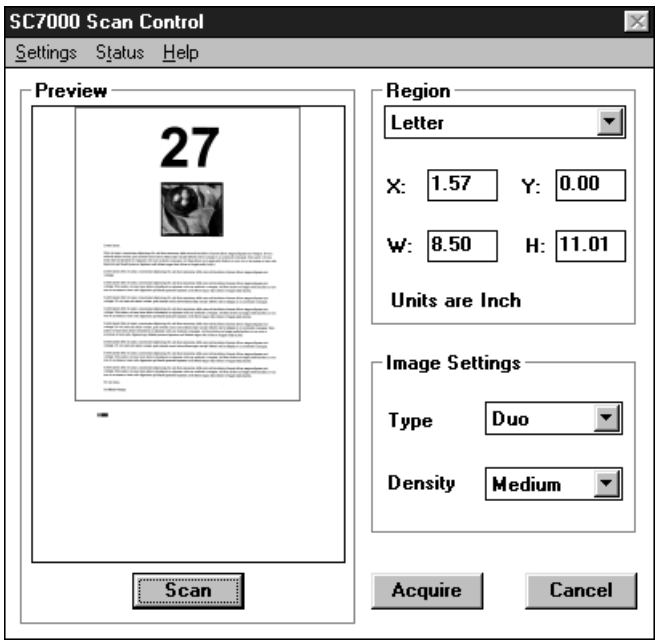

Figure 5.12: SC7000 Scan Control Dialog Box (Windows)

The **SC7000 Scan Control** dialog box offers three menus called **Settings**, **Status** and **Help**.

Enable **Invert Image** from the **Settings** menu if you want to get a negative image. Choose either **Millimeters**, **Inches** or **Pixels** from the **Settings** menu to determine the unit of measurement which is used to define a crop region.

Scanning and duo mode are not supported by all RISOGRAPH models. Select **Show Status** from the **Status** menu to display RISOGRAPH status information. Since this information is read from the SC7000 back to your computer, it also serves as a test for the SCSI connection which is used for scanning.

The **Status** dialog box tells you if the connected RISOGRAPH provides **Duo Mode Support** and **Scanning Support**. Furthermore, the **Resolution** of the RISOGRAPH is displayed. Click **OK** to exit the **Status** dialog box.

Choose **Help** from the **Help** menu to display information on how to use **SC7000 Scan Control**.

Select **About SC7000 Scan Control** from the **Help** menu to display the version number of **SC7000 Scan Control**.

Before you begin to scan an original, select the **Image Settings** from the **SC7000 Scan Control** dialog box:

Choose the **Type** of the original from **Line**, **Photo** and **Duo**. Note that **Duo** mode cannot be selected if it is not supported by your RISOGRAPH. Adjust the scanning **Density** by choosing **Lightest**, **Light**, **Medium Light**, **Standard**, **Medium Dark**, **Dark** or **Darkest**. Please refer to the RISOGRAPH's user manual for a description of these modes.

To scan an image, place the original on the RISOGRAPH's scanner platen and click the **Scan** button. When the RISOGRAPH has finished scanning, a **Preview** of the scanned original is displayed. Even if the full-resolution scan is always black & white, the low-resolution **Preview** is gray scale to improve readability.

Before transferring full-resolution image data from the SC7000 to your computer, select a crop **Region**. There are three different ways to define a crop **Region**:

The first one is to edit a crop region in the **Preview** window by means of the mouse. Move the mouse cursor to one corner of the desired region, click the mouse button and drag the corner. Repeat with the opposite corner.

Alternatively, select a paper size from the crop **Region** pull-down menu. The selected size refers to the markings at the RISOGRAPH's scanner platen.

The third way is to enter values for a **Custom** crop **Region**: Enter X and Y values to define the upper left corner's horizontal and vertical coordinates. Enter W and H values to define the width and height of the crop region. The unit of the entered values may be changed by means of the **Settings** menu.

Finally, click **Acquire** to transfer high-resolution black & white image data of the defined crop region from the SC7000 to your computer.

5.5.3 MS-DOS

The SC7000 scan utility for MS-DOS is similar to the SC7000 scan utility for Windows, but it does not provide a preview or user-defined crop regions.

The SC7000 scan utility for MS-DOS can be controlled by keyboard and mouse (optional). In the latter case a suitable mouse driver must be loaded on your MS-DOS computer.

When using the keyboard, hold down the **<ALT>** key and press the highlighted letter of the menu name to enter the menu. Press **S** while holding **<ALT>** to enter the **Settings** menu, for example. Use the arrow keys to highlight a menu item and press **<ENTER>** to select the highlighted item.

Once you have entered a dialog box, use the **<TAB>** key to select a value to edit.

Alternatively, click the mouse to select menus and menu items.

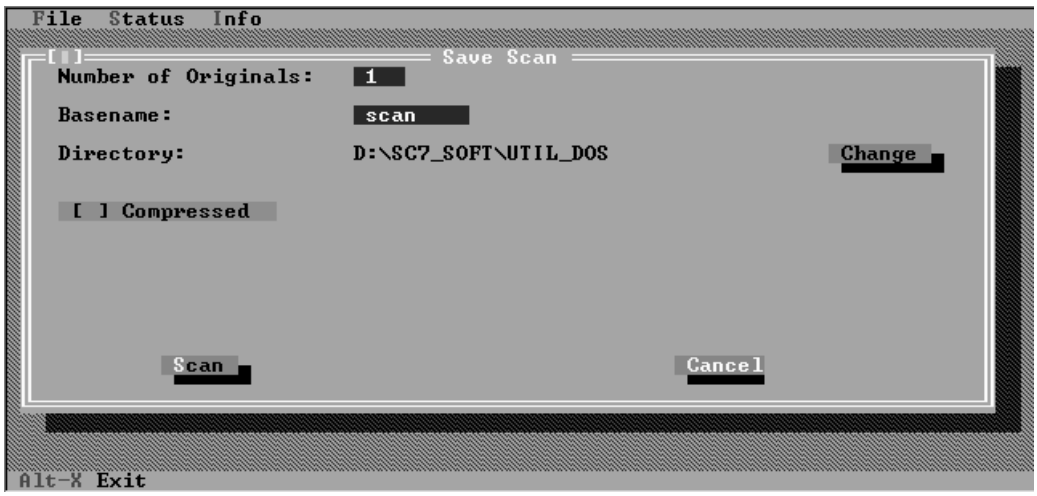

Figure 5.13: SC7000 Scan Utility (MS-DOS)

The scan utility offers three menus called **Settings**, **Status** and **Help**.

Enable **Invert Image** from the **Settings** menu if you want to get a negative image. Choose either **Millimeters**, **Inches** or **Pixels** from the **Settings** menu to determine the unit of measurement which is used to define a crop region.

Scanning and duo mode are not supported by all RISOGRAPH models. Select **Show Status** from the **Status** menu to display RISOGRAPH status information. Since this information is read from the SC7000 back to your computer, it also serves as a test for the SCSI connection which is used for scanning.

The **Status** dialog box tells you if the connected RISOGRAPH provides **Duo Mode Support** and **Scanning Support**. Furthermore, the **Resolution** of the RISOGRAPH is displayed.

Choose **Help** from the **Help** menu to display information on how to use the SC7000 scan utility for MS-DOS.

Select **About SC7000 Scan Utility** from the **Help** menu to display the version number of the SC7000 scan utility for MS-DOS.

Before you begin to scan an original, select the **Image Settings**:

Choose the **Type** of the original from **Line**, **Photo** and **Duo**. Note that **Duo** mode cannot be selected if it is not supported by your RISOGRAPH. Adjust the scanning **Density** by choosing **Lightest**, **Light**, **Medium Light**, **Standard**, **Medium Dark**, **Dark** or **Darkest**. Please refer to the RISOGRAPH's user manual for a description of these modes.

To choose a crop region, select a paper size from the crop **Region** pull-down menu. The selected size refers to the markings at the RISOGRAPH's scanner platen.

Make sure to place an original on the RISOGRAPH's scanner platen before you continue.

Select **Scan** to enter the **Scan** dialog box.

Enter the **Number Of Originals** you want to scan using the ADF. The maximum number is 100. If you do not have an ADF or if you want to scan one original only, enter 1. Note that the same crop region will be used for all originals.

Enter the **Drive** and **Path** where you want to save your TIFF files.

Enter the **Basename** of the files which may consist of up to six characters. Resulting filenames will be created from the basename, extended by two digits, a dot and the filename extension TIF. If the **Basename** is MYSCAN, for example, the resulting files will be named MYSCAN00.TIF, MYSCAN01.TIF and so on.

Check **Compressed** to save your scans as compressed TIFF files. Do not check **Compressed** if you want to save uncompressed TIFF files.

Click **Save** to save the first file and to start automatic scanning of additional originals.

Automatic scanning may be interrupted if a filename already exists or if the selected **Number Of Originals** does not match the number of originals in the ADF.

Appendix 6

6.1 Printer Messages

If your computer system provides a bi-directional communication channel to the SC7000, the following messages may be displayed on your screen. General printer messages are just for your information but error messages require specific user intervention.

Please refer to the user manual of your RISOGRAPH for any information on RISOGRAPH errors. Always make sure to enable the interface mode again after fixing a problem with the RISOGRAPH.

If the action which is suggested below fails to eliminate the error, ask your system administrator for help or refer to the *SC7000 Technical Administrator Manual.*

6.1.1 General Messages

Printer message:	idle
Meaning:	The SC7000 is idle and ready to accept the next print job.
Required action:	None.

Printer message:	busy
Meaning:	The SC7000 is currently processing a print job.
Required action:	None.

Printer message:	waiting
Meaning:	The SC7000 is waiting for additional data.
Required action:	None.

Printer message:	printing
Meaning:	The SC7000 is making a master.
Required action:	None.

6.1.2 Consumables Errors

Printer message:	paper empty
Meaning:	The paper feed tray of the RISOGRAPH is empty.
Required action:	Load paper.

Printer message:	master roll empty
Meaning:	The master material roll of the RISOGRAPH is empty.
Required action:	Replace the master material roll.

Printer message:	master disposal box full
Meaning:	The master disposal box of the RISOGRAPH is full.
Required action:	Empty the master disposal box.

Printer message:	ink cartridge empty
Meaning:	The ink cartridge of the RISOGRAPH is empty.
Required action:	Replace the ink cartridge.

6.1.3 Print Engine Errors

Printer message:	paper jam
Meaning:	There is an error in the printing area of the RISOGRAPH.
Required action:	Check the RISOGRAPH for possible errors.

Printer message:	master jam
Meaning:	There is an error in the master-making area of the RISOGRAPH.
Required action:	Check the RISOGRAPH for possible errors.

Printer message:	option error
Meaning:	There is an error in an optional unit of the RISOGRAPH.
Required action:	Check the RISOGRAPH for possible errors.

Printer message:	offline, press printer I/F key to continue
Meaning:	The RISOGRAPH is offline.
Required action:	Enable the interface mode on the RISOGRAPH.

Printer message:	check printer control panel
Meaning:	The RISOGRAPH reports an unknown error.
Required action:	Check the RISOGRAPH for possible errors.

Printer message:	fatal, check printer control panel
Meaning:	The RISOGRAPH reports a fatal error.
Required action:	Check the RISOGRAPH for possible errors.

Printer message:	check printer power and cable connection
Meaning:	The RISOGRAPH is switched off or not properly connected.
Required action:	Check if the RISOGRAPH is switched on and the video cable is properly connected.

6.1.4 Fatal Errors

Printer message:	communication error, call service
Meaning:	The SC7000 reports a severe communication error.
Required action:	Switch both the SC7000 and RISOGRAPH off and on again.

Printer message:	interface board error, call service
Meaning:	The SC7000 printer interface board test failed.
Required action:	Switch both the SC7000 and RISOGRAPH off and on again.

Printer message:	serial number mismatch, call service
Meaning:	The SC7000 reports a wrong serial number of an internal component.
Required action:	Ask your Technical Administrator to call your local RISO representative.

6.2 Common Problems and What to Do

Several errors are already covered by the printer messages section above. Sometimes, an error cannot be reported by the SC7000. This section lists some typical errors and explains what to do.

Please ask your Technical Administrator for help if the suggested action fails to fix the problem or refer to the *SC7000 Technical Administrator Manual* for additional information.

6.2.1 SC7000-Related Problems

Problem:	The upper control light of the SC7000 is illuminated red.
Assumption:	The SC7000 detected an error.
Required action:	Check both computer and RISOGRAPH for any error messages. Switch both SC7000 and RISOGRAPH off and on again.

6.2.2 Computer-Related Problems

Problem:	The desired paper size cannot be selected from the printer driver.
Assumption:	Cylinder size setup of the printer driver does not match your RISOGRAPH's configuration.
Required action:	Set up the printer driver as described in the computer setup section.

Problem:	The desired Sort Mode cannot be selected from the printer driver.
Assumption:	Sorter setup of the printer driver does not match your RISOGRAPH's configuration.
Required action:	Set up the printer driver as described in the computer setup section.

6.2.3 RISOGRAPH-Related Problems

Problem:	The RISOGRAPH makes a new master for each printed page.
Assumption:	**Collate** or **Collated Copies** is selected from within your application software.
Required action:	Make sure to disable any **Collate** or **Collated Copies** options.

Problem:	The RISOGRAPH prints more copies than expected and prints all copies of a page from the same master.
Assumption:	The SC7000 is configured to print a large number of proof copies.
Required action:	Use the SC7000 utility to print the settings page and verify the number of proof copies. Ask your Technical Administrator to set the number of proof copies.

Problem:	The RISOGRAPH prints more copies than expected and uses more than one master for the same page.
Assumption:	The printer driver is set up to print a number of copies larger than one.
Required action:	Make sure to set the number of **Copies** to 1 in the printer driver. Always set the number of **Copies** from within your application program.

Problem:	The edges of a printed page are clipped.
Assumption:	The size of the master does not match the page size.
Required action:	Make sure to load paper of the correct size and feed direction before the master is made.

6.3 Resident Font List

This section lists all resident, i.e. built-in fonts of the SC7000. Roman fonts are common to all models of the SC7000.

6.3.1 Roman Fonts

AvantGarde-Book
AvantGarde-BookOblique
AvantGarde-Demi
AvantGarde-DemiOblique
Bookman-Demi
Bookman-DemiItalic
Bookman-Light
Bookman-LightItalic
Courier
Courier-Bold
Courier-BoldOblique
Courier-Oblique
Helvetica
Helvetica-Bold
Helvetica-BoldOblique
Helvetica-Oblique
Helvetica-Narrow
Helvetica-Narrow-Bold
Helvetica-Narrow-BoldOblique
Helvetica-Narrow-Oblique
NewCenturySchlbk-Bold
NewCenturySchlbk-BoldItalic
NewCenturySchlbk-Italic
NewCenturySchlbk-Roman
Palatino-Bold
Palatino-BoldItalic
Palatino-Italic
Palatino-Roman
Symbol
Times-Bold
Times-BoldItalic
Times-Italic
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ZapfChancery-MediumItalic
ZapfDingbats

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